



# ACS-2210A

## Box PC User Manual

### Revision

| Date      | Version | Remark |
|-----------|---------|--------|
| Feb. 2013 | V1.0    |        |
|           |         |        |
|           |         |        |
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# Warning!

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This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

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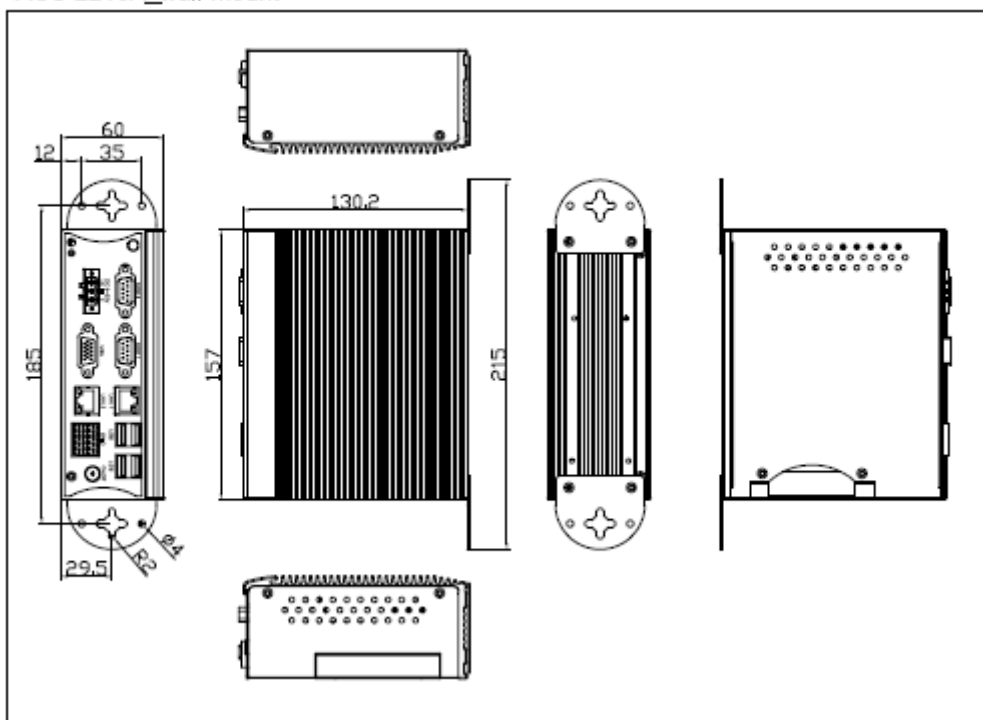
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## 1.1 Specifications

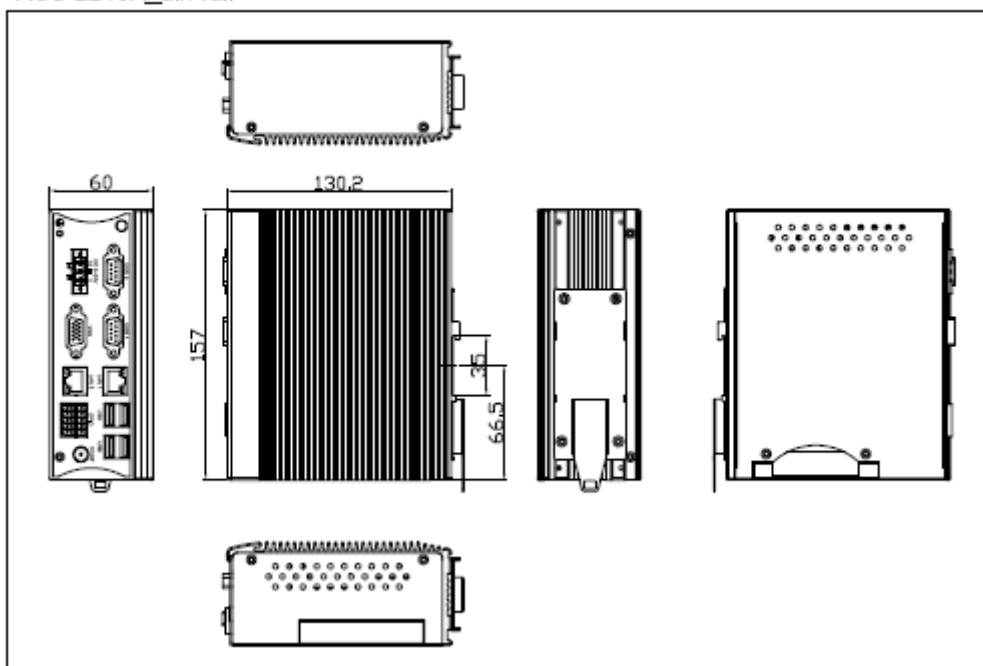
| Specs                  | ACS-2210A  |
|------------------------|--|
| CPU                    | Intel Menlow Z510P 1.1Ghz/Z530P 1.6Ghz for option  |
| Chipset                | Intel US15WP   |
| System Memory          | 1 GB DDRII 400 MHz on board  |
| External I/O Port      | 1 x DB-9 RS-232 (COM3)<br>1 x DB-9 RS-232/422/485 (COM1, Default:RS-485)<br>4 x USB<br>1 x RJ45 GbE LAN<br>1 x VGA<br>1 x USB to RJ-45 10/100M LAN<br>1 x DC 9-32V 3 Pins TB connector<br>1 x 2X5 10pins Terminal Block for 8 pin GPIO, VCC and Ground<br>1 x LED indication for power |
| Storage                | 1 x 2.5" SATA HDD  |
| Wireless LAN           | Wireless LAN Module via mini-PCle (Optional)<br>1 x antenna hole at the I/O side   |
| Power Supply           | DC 9-32V   |
| OS Support             | Windows XP Embedded, Windows CE6.0, Windows Embedded Standard 7  |
| Mounting               | Wall Mount Kit as default, DIN Rail Kit for option   |
| Construction and Color | Aluminum sink & Aluminum front plane, Heavy-duty steel chassis   |
| Dimensions (WxHxD)     | 157 x 130.2 x 60 mm  |
| Operating Temperature  | 0~50°C   |
| Storage Temperature    | -20~60°C   |
| Relative Humidity      | 10%~90%@ 40 ° C, (non-condensing)  |
| Certificate            | CE/FCC Class A   |

## 1.2 Dimensions

ACS-2210A\_wall-mount



ACS-2210A\_din-rail



**Figure 1.1: Dimensions of ACS-2210A**

## 1.3 Brief Description of the ACS-2210A

ACS-2210A is a Fan-less DIN Rail Mounting and ultra-compact standalone Box PC, powered by an Intel Atom Z510P 1.1 GHz FSB 400 MHz, Z530P 1.6 GHz FSB 533 MHz for option, and supporting 4 x USB 2.0 ports, 2 x COM Ports, 1 x VGA, support Mini PCIe Expansion, 1 x SATA HDD space, 9-32V wide-ranging power input etc. It is ideal for kiosks, POS systems, airport terminal controllers, digital entertainments, etc. and running factory operations from small visual interface and maintenance applications to large control process applications. ACS-2210A works very well along with any of our Display Monitor series and it absolutely can provide an easy way to perform control and field maintenance.



**Figure 1.2: Din Rail Mount of ACS-2210A**



**Figure 1.3: Wall Mount of ACS-2210A**

2.1 Mainboard



Figure 2.1: Mainboard Overview

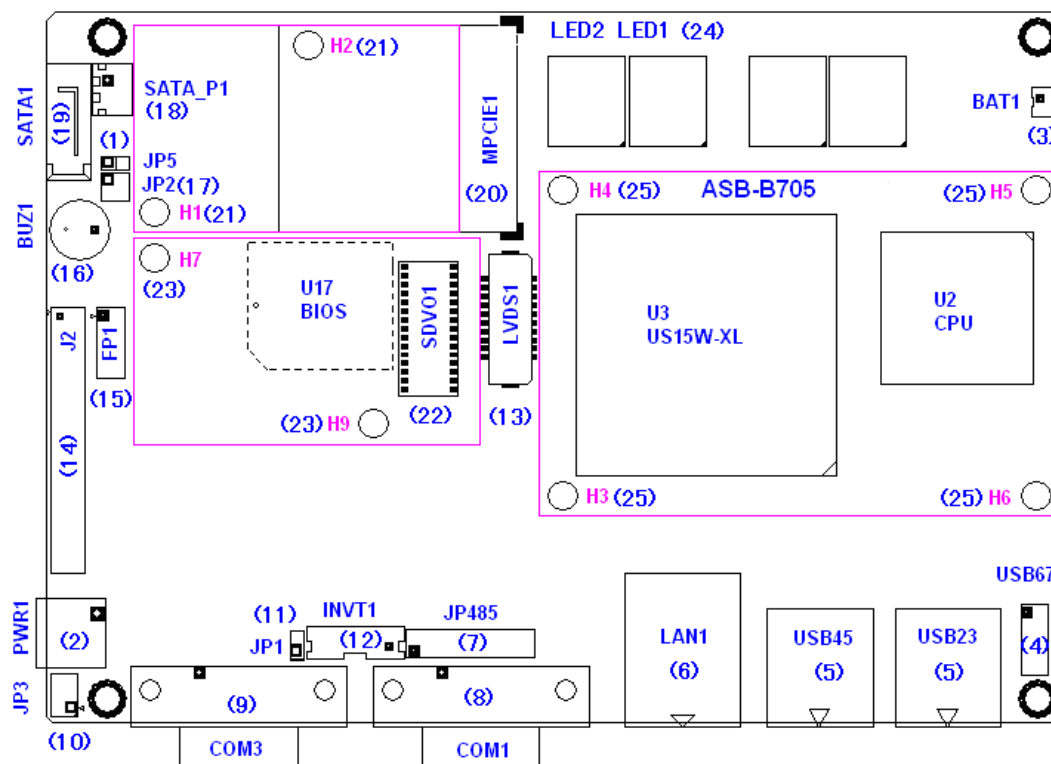
| Specifications |  |
|----------------|--|
| Board Size     | 146mm x 102mm  |
| CPU Support    | Support Intel Atom Z530P, FSB 533 MHz (onboard),<br>Support Intel Atom Z510P, FSB 400 MHz (option) |
| Chipset        | Intel US15WP/PT  |
| Memory Support | Onboard 1GB DDR2 533 MHz FSB   |
| Graphics       | Integrated Intel GMA 500   |
| Super I/O      | Winbond W83627UHG  |



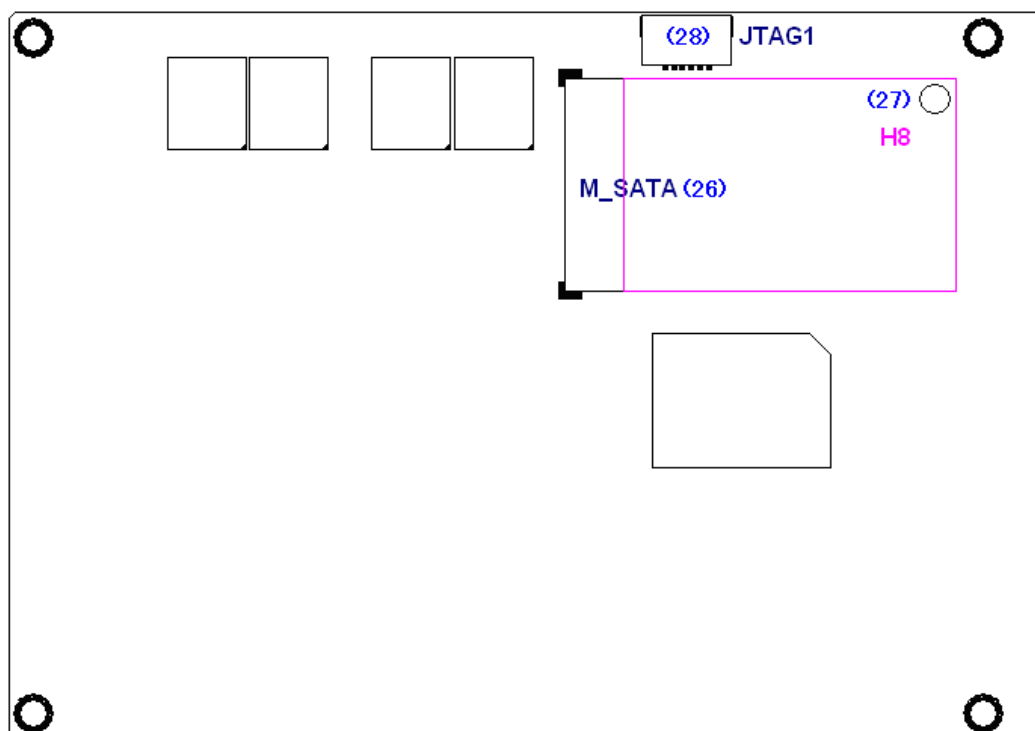
|                             |   |
|-----------------------------|---|
| <b>BIOS</b>                 | AMIBIOS   |
| <b>LVDS</b>                 | 1 x 18/24 bit LVDS output connector   |
| <b>SDVO</b>                 | 1 x SDVO Pin header for internal<br>(Expansion: SDVO to CRT,SDVO to LVDS,SDVO to HDMI/DVI)  |
| <b>Storage</b>              | 1 x SATA Connector<br>1 x mSATA Connector   |
| <b>Network</b>              | 1 x RJ-45 1000Mbps LAN Intel 82574L   |
| <b>USB</b>                  | 4 x USB 2.0 stack port for external<br>2 x USB 2.0 Pin header for internal  |
| <b>Serial</b>               | 1 x RS232 port, DB9 connector for external (COM3),<br>pin 9 w/5V/12V/Ring select<br>1 x RS232/422/485 select header for internal (COM1)               |
| <b>Battery</b>              | Support CR2477 Li battery by 2-pin header   |
| <b>Audio</b>                | Support Audio via Realtek ALC662 HD audio decoder<br>Support Line-in, Line-out, MIC by J2 pin header  |
| <b>Expansion Bus</b>        | 1 x mini-PCI-express slot (full size)<br>Support USB 2.0 Device   |
| <b>Expansion Ports (J2)</b> | 1 x USB 2.0 Pin header for internal<br>2 x RS232 header for internal (COM2,COM4)<br>1 x SD Card<br>1 x PS/2 KB/MS pin header<br>1 x Audio<br>8 x GPIO |
| <b>Power Management</b>     | DC9V~32V input<br>1 x 2-pin power input connector   |
| <b>Front I/O</b>            | by 2x5-pin header<br>Power on/off switch<br>Reset switch<br>Power LED status<br>HDD LED status<br>WLAN LED status                                     |
| <b>Watchdog Timer</b>       | Software programmable 1 – 255 second by Super I/O   |
| <b>External I/O port</b>    | 2 x COM Port (COM1,COM3)<br>4 x USB 2.0 Ports (stack)   |

|                          |  |
|--------------------------|--|
|                          | 1 x RJ45 GbE Port  |
| <b>Temperature</b>       | Operating: -20℃–70℃ (Optional : -40~85℃ )<br>Storage: -40℃–85℃ |
| <b>Humidity</b>          | 5% - 95%, non-condensing, operating                            |
| <b>Power Consumption</b> | <a href="#">12V /2.00A (Intel Z530P/1.6GHz processor )</a>     |
| <b>EMI/EMS</b>           | Meet CE/FCC class A  |

## 2.2 Jumpers and Connectors Location



**Figure 2.2: Board Top**



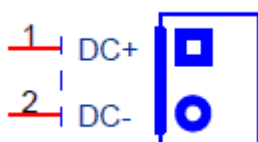
**Figure 2.3: Board Bottom**

## 2.3 Jumpers Setting and Connectors

- JP5:** (2.0mm Pitch 1x2 Pin Header), ATX Power and AT Power setting jumper.

| JP5          | Mode                 |
|--------------|----------------------|
| Open         | ATX Power Mode       |
| <b>Close</b> | <b>AT Power Mode</b> |

- PWR1:** (5.0mm 1x2 Pin Connector),DC9V~32V System power input connector ◦



| Pin# | Signal Name  |
|------|--------------|
| 1    | +DC9V~DC32 V |
| 2    | Ground       |

**Note:**

**Make sure that the voltage of power supply is DC9V~32V before power on, or it may cause boot up failure and even system damage.**

- 3. BAT1:** (1.25mm Pitch 1X2 box Pin Header) 3.0V Li battery is embedded to provide power for CMOS.

| Pin# | Signal Name |
|------|-------------|
| Pin1 | VBAT        |
| Pin2 | Ground      |

- 4. USB67:** (2.0mm Pitch 2x5 Pin Header) ,Front USB connector, it provides two USB ports via a dedicated USB cable, speed up to 480Mb/s.  
USB6 and USB7 can only be used for internal device attachment as USB 2.0 Specification, Can not support USB1.1 and USB 1.0 Specification.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| +5V         | 1    | 2    | +5V         |
| USB6_N      | 3    | 4    | USB7_N      |
| USB6_P      | 5    | 6    | USB7_P      |
| Ground      | 7    | 8    | Ground      |
| NC          | 9    | 10   | Ground      |

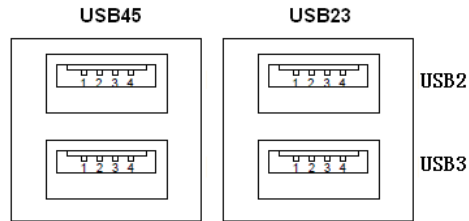
**Note:**

Before connection, make sure that pin out of the USB Cable is in accordance with that of the said tables. Any inconformity may cause system down and even hardware damages.

- 5. USB23/USB45:** (Double stack USB type A), Rear USB connector, it provides up to 4

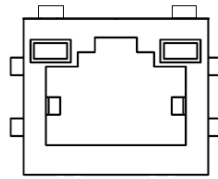
USB2.0 ports, speed up to 480Mb/s. **USB2 support USB client function, BIOS setting: USB Client Controller [Enabled].**

**Turn off the power before removing USB2 cable, otherwise it will burn ASB-B705.**



## 6. LAN1: (RJ45 Connector), Rear LAN port, 1 standard 10/100/1000M RJ-45

Ethernet ports are provided. Used Intel 82574L chipset, LINK LED (green) and ACTIVE LED (Orange) respectively located at the left-hand and right-hand side of the Ethernet port indicate the activity and transmission state of LAN.

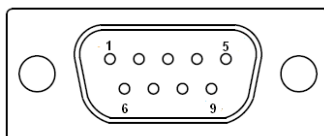


## 7. JP485: (2.0mm Pitch 2x9 Pin Header), COM1 setting jumper, pin 1~18 are used to select signal out of COM1 port of RS232 or RS422 or RS485 mode.

| COM1 Mode          | JP485 Setting  |                                   |
|--------------------|--|-----------------------------------|
| RS232<br>(default) | 1-3 ( Close)<br>2-4 ( Close)<br>7-9 ( Close)<br>8-10 ( Close)<br>13-14 (Close)   | <b>JP485 Jumper for RS232</b><br> |
| RS422              | 3-5 ( Close)<br>4-6 ( Close)<br>9-11 ( Close)<br>10-12 ( Close)<br>17-18 (Close) | <b>JP485 Jumper for RS422</b><br> |
| RS485              | 3-5 ( Close)<br>4-6 ( Close)<br>15-16 (Close)                                    | <b>JP485 Jumper for RS485</b><br> |

## 8. COM1: (Type DB9),Rear serial port, standard DB9 serial port is provided

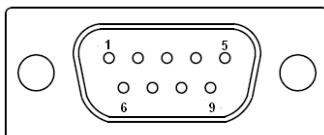
to make a direct connection to serial devices. COM1 port is controlled by pins No.1~18 of **JP485**,select output Signal RS232 or RS422 or RS485, For details, please refer to description of JP485.



| Pin #                                | Signal Name                |         |        |
|--------------------------------------|----------------------------|---------|--------|
|                                      | RS232                      | RS422   | RS485  |
| 1                                    | DCD# (Data Carrier Detect) | 422_TX- | 485_D- |
| 2                                    | RXD (Received Data)        | 422_RX- | NC     |
| 3                                    | TXD (Transmit Data)        | 422_RX+ | NC     |
| 4                                    | DTR (Data Terminal Ready)  | 422_TX+ | 485_D+ |
| 5                                    | Ground                     | Ground  | Ground |
| 6                                    | DSR (Data Set Ready)       | NC      | NC     |
| 7                                    | RTS (Request To Send)      | NC      | NC     |
| 8                                    | CTS (Clear To Send)        | NC      | NC     |
| 9                                    | RI (Ring Indicator)        | NC      | NC     |
| please refer to description of JP485 |                            |         |        |

## 9. COM3: (Type DB9),Rear serial port, standard DB9 serial port is provided

to make a direct connection to serial devices. COM1 port is controlled by pins No.1~6 of **JP3** select output Signal RI or 5V or 12v, For details, please refer to description of JP3.



| Pin# | Signal Name                |
|------|----------------------------|
| 1    | DCD# (Data Carrier Detect) |
| 2    | RXD (Received Data)        |
| 3    | TXD (Transmit Data)        |
| 4    | DTR (Data Terminal Ready)  |
| 5    | Ground                     |
| 6    | DSR (Data Set Ready)       |
| 7    | RTS (Request To Send)      |

|   |  |
|---|--|
| 8 | CTS (Clear To Send)  |
| 9 | JP3 Setting:<br><b>Pin1-2 : RI (Ring Indicator)<br/>(default)</b><br>Pin3-4 : 5V Standby power (option)<br>Pin5-6: 12V Standby power<br>(option) |

**10. JP3:** (2.0mm Pitch 2x3 Pin Header), COM1 setting jumper, pin 1~6 are used to select signal out of pin 9 of COM3 port.

| JP3 Pin#         | Function                                 |
|------------------|--|
| <b>Close 1-2</b> | <b>RI (Ring Indicator)<br/>(default)</b> |
| Close 3-4        | COM1 Pin9=+5V (option)                   |
| Close 5-6        | COM1 Pin9=+12V (option)                  |

**11. JP1:** (2.0mm Pitch 1x2 Pin Header), Backlight Control jumper setting for LVDS1.

| Signal Name        | JP1   |
|--------------------|-------|
| PWM                | Open  |
| DC voltage<br>Mode | Close |



Note:

Please check first your LVDS panel backlight control by DC voltage Mode or PWM?  
Panel backlight control by Level 5V.

**12. INVT1:** (2.0mm Pitch 1x6 box Pin Header), Backlight control connector for LVDS1.

| Pin# | Signal Name |
|------|-------------|
| 1    | DC+12V      |
| 2    | DC+12V      |
| 3    | Ground      |

|   |           |
|---|-----------|
| 4 | Ground    |
| 5 | BKLT_EN   |
| 6 | BKLT_CTRL |



Note:

Pin6 is backlight control signal, support DC or PWM mode, mode select at BIOS CMOS menu.

**13. LVDS1:** For 18/24 bit LVDS output connector, Fully supported by Intel US15W chipset, the interface features single channel 18/24-bit output. Model name of the interface connector is Hirose DF13-20DP-1.25V.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| VCC         | 2    | 1    | VCC         |
| Ground      | 4    | 3    | Ground      |
| LA_DATAP0   | 6    | 5    | LA_DATAN0   |
| LA_DATAP1   | 8    | 7    | LA_DATAN1   |
| LA_DATAP2   | 10   | 9    | LA_DATAN2   |
| LA_DATAP3   | 12   | 11   | LA_DATAN3   |
| LA_CLKP     | 14   | 13   | LA_CLKN     |
| Ground      | 16   | 15   | Ground      |
| BKLT_EN_OUT | 18   | 17   | BKLT_CTRL   |
| 12V         | 20   | 19   | 12V         |

**14. J2:** (1.27 x 2.54mm Pitch 2x30 Pin Header), Can be connected to one USB 2.0 Port and one PS/2 Keyboard port and one Mouse port and one Audio port and one SD bus and five GPIO and one SMB bus and two RS232 Ports.

**·USB1:**

Expansion USB connector, it provides two USB ports via a dedicated USB cable, speed up to 480Mb/s.

**·AUDIO:**

Front Audio, An onboard Realtek ALC662 codec is used to provide high-quality audio I/O ports. Line Out can be connected to a headphone or amplifier. Line In is used for the connection of external audio source via a Line in cable. MIC is the port for microphone input audio.

**·PS/2:**



\_Expansion PS/2 keyboard and mouse, the port can be connected to PS/2 keyboard and mouse via a dedicated cable for direct used.

·**SD BUS:**

Expansion SD bus.

·**GPIO:**

8 GPIO, General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.

·**RS232(COM2,COM4):**

Expansion serial ports are provided to make a direct connection to serial devices.

| Function        | Signal Name | Pin# | Pin# | Signal Name  | Function        |
|-----------------|-------------|------|------|--------------|-----------------|
| USB1            | 5V_USB01    | 1    | 2    | 5V_USB01     | USB1            |
|                 | USB1_N      | 3    | 4    | USB1_P       |                 |
|                 | Ground      | 5    | 6    | Ground       |                 |
| PS/2<br>MS      | MS_CLK      | 7    | 8    | KB_CLK       | PS/2 KB         |
|                 | MS_DATA     | 9    | 10   | KB_DATA      |                 |
|                 | 5V_F_AUDIO  | 11   | 12   | GND_AUD      |                 |
| Audio           | LINE_OUT_L  | 13   | 14   | LINE_OUT_R   | Audio           |
|                 | LINE_IN_L   | 15   | 16   | LINE_IN_R    |                 |
|                 | MIC_IN_L    | 17   | 18   | MIC_IN_R     |                 |
|                 | Ground      | 19   | 20   | Ground       |                 |
| SD bus          | SD0_D2      | 21   | 22   | SD0_D3       | SD bus          |
|                 | SD0_CMD     | 23   | 24   | SD0_CLK      |                 |
|                 | SD0_D0      | 25   | 26   | SD0_D1       |                 |
|                 | SD0_CD-     | 27   | 28   | SD0_WP       |                 |
|                 | 3P3V_SDISK  | 29   | 30   | 3P3V_SDISK   |                 |
| GPIO            | EXT_GPIO6   | 31   | 32   | EXT_GPIO9    | GPIO            |
|                 | EXT_GPIO2   | 33   | 34   | EXT_GPIOSUS0 |                 |
|                 | EXT_GPIO3   | 35   | 36   | EXT_GPIO8    |                 |
|                 | EXT_GPIO1   | 37   | 38   | EXT_GPIO4    |                 |
| RS232<br>(COM2) | Ground      | 39   | 40   | Ground       | RS232<br>(COM2) |
|                 | DSR2-       | 41   | 42   | DCD2-        |                 |
|                 | RTS2-       | 43   | 44   | RXD2         |                 |
|                 | CTS2-       | 45   | 46   | TXD2         |                 |
|                 | RI2-        | 47   | 48   | DTR2-        |                 |

|                 |        |    |    |        |                 |
|-----------------|--------|----|----|--------|-----------------|
|                 | 5V_S0  | 49 | 50 | 5V_S0  | RS232<br>(COM4) |
| RS232<br>(COM4) | DSR4-  | 51 | 52 | DCD4-  |                 |
|                 | RTS4-  | 53 | 54 | RXD4   |                 |
|                 | CTS4-  | 55 | 56 | TXD4   |                 |
|                 | RI4-   | 57 | 58 | DTR4-  |                 |
|                 | Ground | 59 | 60 | Ground |                 |

## 15. **FP1:** (2.0mm Pitch 2X5 Pin Header), Front panel connector.

| Signal Name | Pin# | Pin# | Signal Name            |
|-------------|------|------|------------------------|
| HD LED+     | 1    | 2    | POWER LED+             |
| HD LED-     | 3    | 4    | POWER LED-<br>(Ground) |
| Ground      | 5    | 6    | PWR_ON                 |
| RESET+      | 7    | 8    | Ground                 |
| WAN LED-    | 9    | 10   | WAN LED+               |

### **Pin1-3:**

**HDD LED**, They are used to connect hard disk activity LED. The LED blinks when the hard disk is reading or writing data.

### **Pin2-4:**

**POWER LED**, They are used to connect power LED. When the system is powered on or under S0/S1 state, the LED is normally on; when the system is under S4/S5 state, the LED is off.

### **Pin5-6:**

**POWER on/off Button**, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

### **Pin7-8:**

**RESET Button**, They are used to connect reset button. The two pins are dis-connected under normal condition. You may short them temporarily to realize system reset.

### **Pin9-10:**

**WAN LED**, They are used to connect WAN LED.



Note:

When connecting LEDs, pay special attention to the signal polarity. Make

sure that the connector pins have a one-to-one correspondence with chassis wiring, or it may cause boot up failure.

**16. BUZ1: onboard buzzer.**

- 17. JP2:** (2.0mm Pitch 2x2 Pin Header), mSATA/SATA1 Devices Master or slave jumper setting. While using mSATA/SATA1 devices at the same time, one of the devices must be set as Master.

| JP2                      | Devices Master |
|--------------------------|----------------|
| <b>1~2 on</b><br>3~4 off | mSATA Master   |
| 1~2 off<br><b>3~4 on</b> | SATA1 Master   |

- 18. SATA\_P1:** (2.5mm Pitch 1x2 box Pin Header), an onboard 5V output connector is reserved to provide power for SATA devices.

| Pin# | Signal Name |
|------|-------------|
| 1    | +DC5V       |
| 2    | Ground      |

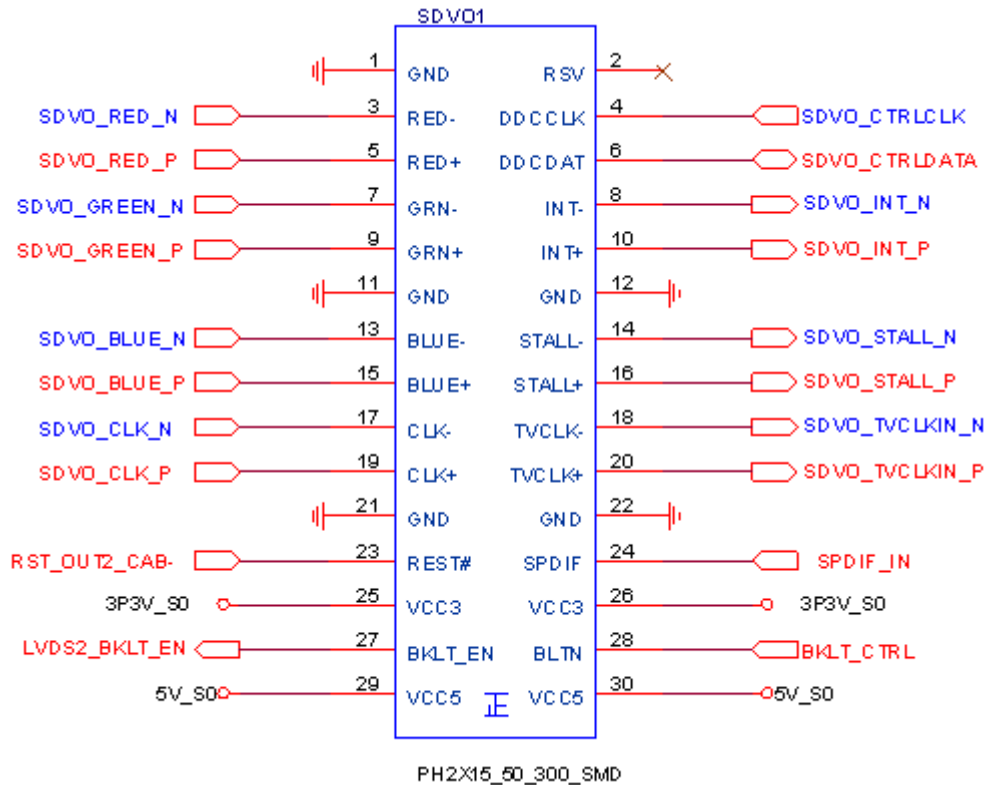


**Note:**

**Output current of the connector must not be above 1A.**

- 19. SATA1:** (SATA 7P), SATA Connectors, one SATA connectors are provided, with transfer speed up to 3.0Gb/s.
- 20. MPCIE1:** (50.95mmx30mm Socket 52Pin), mini PCIE socket, it is located at the top, it supports mini PCI-E devices with USB2.0, SMBUS and PCI-E signal.
- 21. H1/H2:** MPCIE1 SCREW HOLES, H1 for mini PCIE card (50.95mmx30mm Socket 52 Pin) assemble. H2 Reserve.

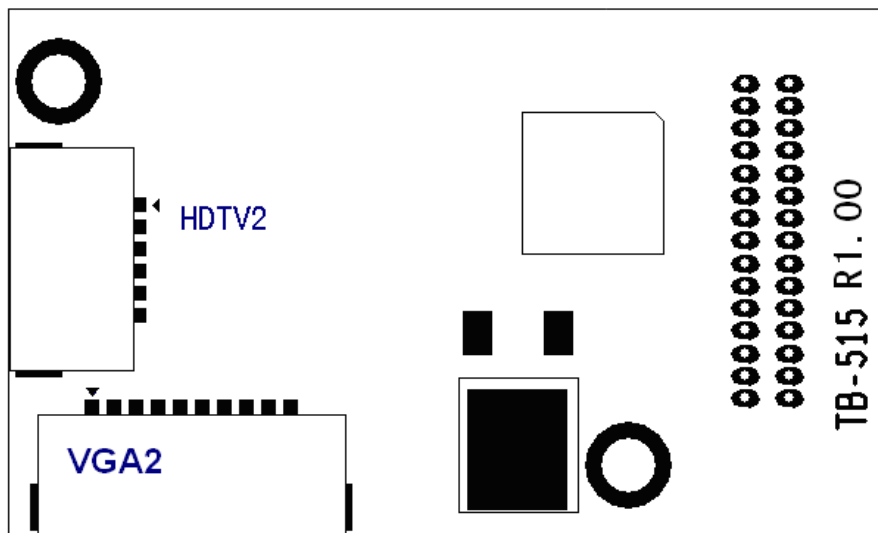
## 22. SDVO1: (1.27 x 2.54mm Pitch 2x15 Pin Header), SDVO bus, connect SDVO to VGA card or SDVO to LVDS card or SDVO to HDMI card or SDVO to DVI Card °



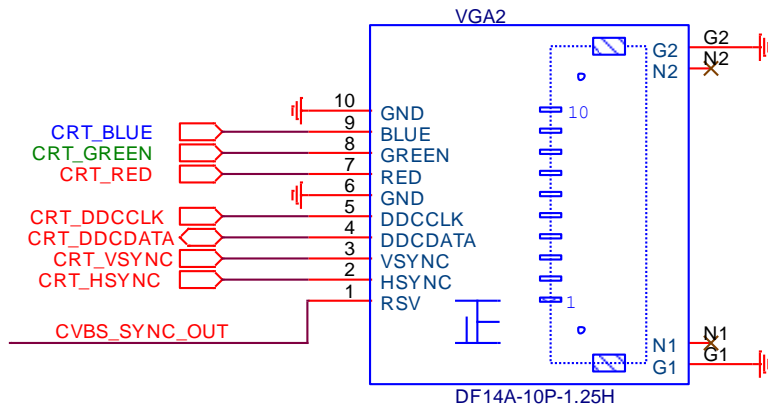
### ☐ TB-515 R1.00 (option):

ASB-B705 SDVO1 connected Card, Support SDVO to CRT display and HDMI TV display

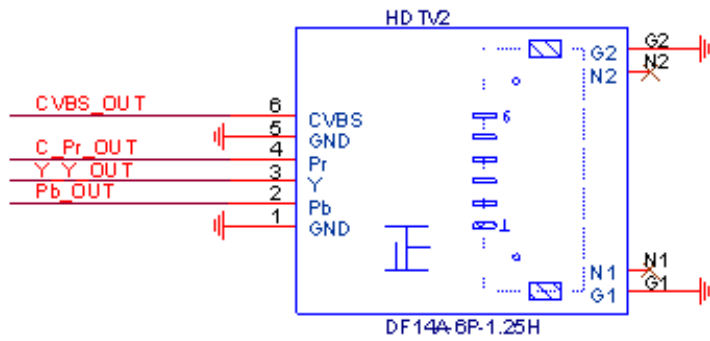
TB515 Location



VGA2 Port Signal Name:

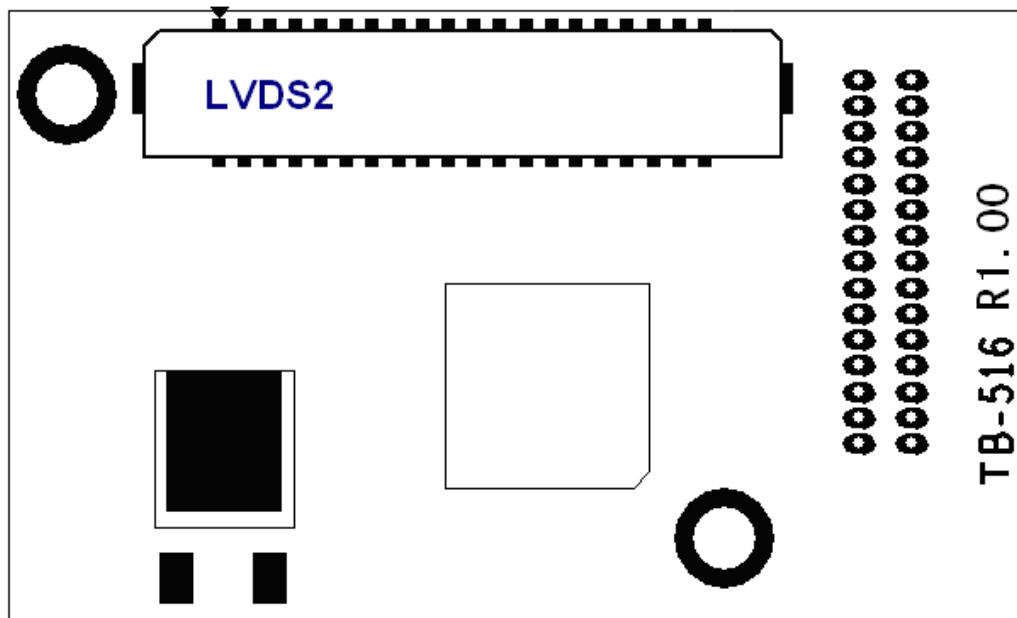


HDTV2 Port Signal Name:

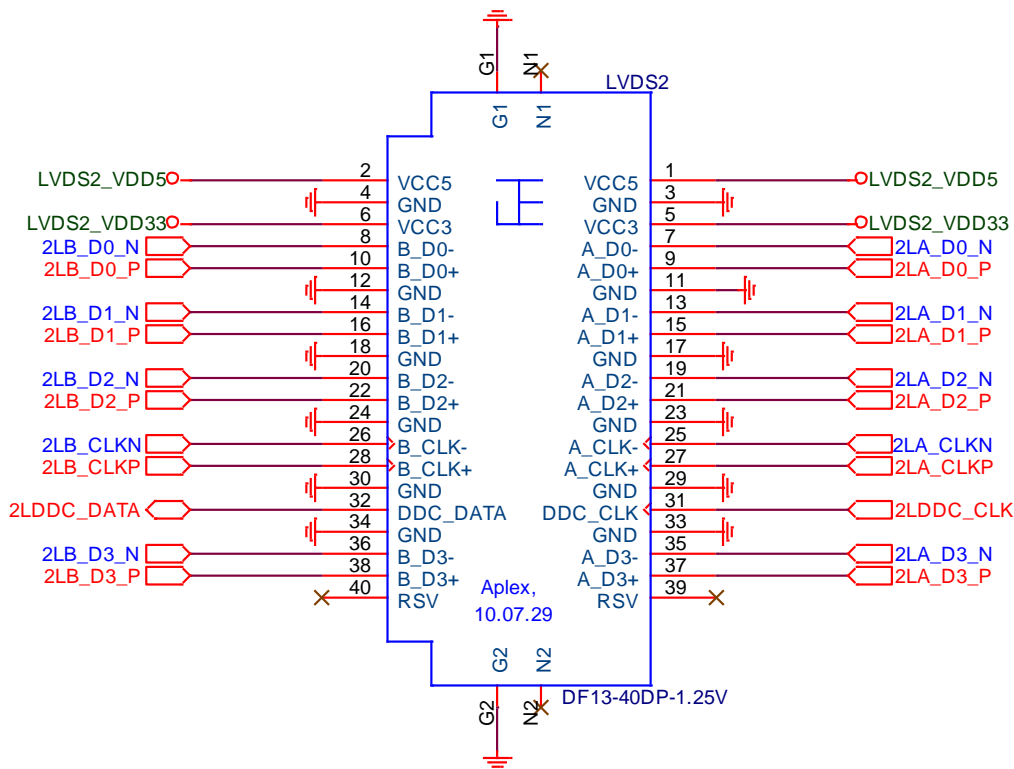


☐ **TB-516 R1.00 (option):**

ASB-B705 SDVO1 connected Card, Support dual channel 18/24 bit LVDS output connector.



LVDS2 Port Signal Name:



LVDS2 Backlight control connector for INVERTER1.

- 23. H7/H9:** SDVO CARD SCREW HOLES, two screw holes for SDVO card assemble.
- 24. LED1/LED2:** LED STATUS. LED1:Motherboard Standby Power Good status ° LED2: Motherboard CPU Power Good status.
- 25. H3/H4/H5/H6:** Intel Atom Z530P(or Z510P) CPU+ US15W Heat Sink SCREW HOLES, Four screw holes for intel CPU and US15W Heat Sink assemble.
- 26. M\_SATA:** (50.95mmx30mm Socket 52Pin), mSATA socket, it is located at the bottom, it supports mini PCI-E devices with USB2.0, B2 mSATA bus for flash disk signal.
- 27. H8:** mSATA CARD SCREW HOLES, one screw holes for mSATA card assemble.

## 28. JTAG1: Reserve.

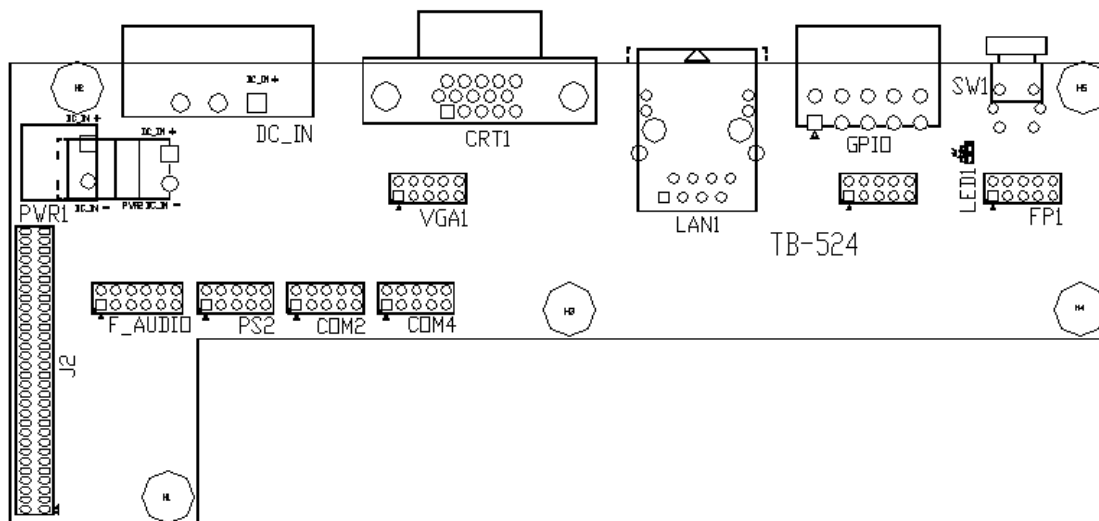
## 29. TB-524 (option):

ASB-B705 (R1.00/R2.00) expansion card.

(1) Specifications:

| Specifications   |  |
|------------------|--|
| Board Size       | 146 mm x 61.5 mm   |
| Power Management | DC9V~32V input<br>1 x 3-pin power input connector (DC_IN)  |
| Display          | 1 x DB15 (CRT1)  |
| LAN              | 1 x USB to RJ-45 10/100M LAN port (LAN1)   |
| Terminal Block   | 1 x 8-bit digital I/O by Pin header or connector (GPIO/GPIO1)<br>4-bit digital Input<br>4-bit digital Output<br>1x VCC<br>1x GND |
| Power Button     | 1x Power on/off switch (SW1)<br>1x Green Power LED   |
| Serial           | 2 x RS232 header for internal (COM2,COM4)  |
| Audio            | Support Line-in, Line-out, MIC by 2x6 pin header (F_AUDIO)   |
| KB/MS            | 1 x PS/2 keyboard pin header (PS2)<br>1 x PS/2 Mouse pin header  |

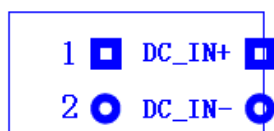
(2) Location:



### PWR1 : (Connection to ASB-B705)

(5.0mm 1x2 Pin Connector), System power output connector ◦

They can be used directly via 1x2 Pin cable connection to **ASB-B705 PWR1**.



| Pin# | Signal Name       |
|------|-------------------|
| 1    | DC_IN+ (+DC9~32V) |
| 2    | DC_IN- (Ground)   |

### J2 : (Connection to ASB-B705)

(1.27 x 2.54mm Pitch 2x30 Pin Header), Can be connected to one USB 2.0 Signal and one PS/2 Keyboard port and one Mouse port and one Audio port and five GPIO and two RS232 Ports.

They can be used directly via 2x30 Pin cable connection to **ASB-B705 J2**.

| Function | Signal Name     | Pin# | Pin# | Signal Name | Function |
|----------|-----------------|------|------|-------------|----------|
| USB1     | 5V_USB01        | 1    | 2    | 5V_USB01    | USB1     |
|          | USB1_N          | 3    | 4    | USB1_P      |          |
|          | Ground          | 5    | 6    | Ground      |          |
| PS/2 MS  | MS_CLK          | 7    | 8    | KB_CLK      | PS/2 KB  |
|          | MS_DATA         | 9    | 10   | KB_DATA     |          |
|          | 5V_F_AUDIO<br>O | 11   | 12   | GND_AUD     |          |
| Audio    | LINE_OUT_<br>L  | 13   | 14   | LINE_OUT_R  | Audio    |



|                 |                |    |    |                  |                 |
|-----------------|----------------|----|----|------------------|-----------------|
|                 | LINE_IN_L      | 15 | 16 | LINE_IN_R        |                 |
|                 | MIC_IN_L       | 17 | 18 | MIC_IN_R         |                 |
|                 | Ground         | 19 | 20 | Ground           |                 |
| NC              | SD0_D2         | 21 | 22 | SD0_D3           | NC              |
|                 | SD0_CMD        | 23 | 24 | SD0_CLK          |                 |
|                 | SD0_D0         | 25 | 26 | SD0_D1           |                 |
|                 | SD0_CD-        | 27 | 28 | SD0_WP           |                 |
|                 | 3P3V_SDIS<br>K | 29 | 30 | 3P3V_SDISK       |                 |
| GPIO            | EXT_GPIO6      | 31 | 32 | EXT_GPIO9        | GPIO            |
|                 | EXT_GPIO2      | 33 | 34 | EXT_GPIOSU<br>S0 |                 |
|                 | EXT_GPIO3      | 35 | 36 | EXT_GPIO8        |                 |
|                 | EXT_GPIO1      | 37 | 38 | EXT_GPIO4        |                 |
| RS232<br>(COM2) | Ground         | 39 | 40 | Ground           | RS232<br>(COM2) |
|                 | DSR2-          | 41 | 42 | DCD2-            |                 |
|                 | RTS2-          | 43 | 44 | RXD2             |                 |
|                 | CTS2-          | 45 | 46 | TXD2             |                 |
|                 | RI2-           | 47 | 48 | DTR2-            |                 |
|                 | 5V_S0          | 49 | 50 | 5V_S0            | RS232<br>(COM4) |
| RS232<br>(COM4) | DSR4-          | 51 | 52 | DCD4-            |                 |
|                 | RTS4-          | 53 | 54 | RXD4             |                 |
|                 | CTS4-          | 55 | 56 | TXD4             |                 |
|                 | RI4-           | 57 | 58 | DTR4-            |                 |
|                 | Ground         | 59 | 60 | Ground           |                 |

### VGA1 : (Connection to TB-515 VGA2)

(2.0mm Pitch 2x5 Pin Header), Video Graphic Array Port.

They can be used directly via 2x5 Pin cable connection to **TB-515 R1.00 VGA2**.

| Signal Name | Pin# | Pin# | Signal Name      |
|-------------|------|------|------------------|
| CRT_RED     | 1    | 2    | Ground           |
| CRT_GREEN   | 3    | 4    | Ground           |
| CRT_BLUE    | 5    | 6    | Ground           |
| CRT_HSYNC   | 7    | 8    | CRT_DDCCDAT<br>A |
| CRT_VSYNC   | 9    | 10   | CRT_DDCCCL<br>K  |

### FP1 : (Connection to ASB-B705 FP1)

(2.0mm Pitch 2X5 Pin Header), Can be connected to one Power LED and Power on/off Button Signal.

They can be used directly via 2x5 Pin cable connection to **ASB-B705 FP1**.

| Signal Name | Pin# | Pin# | Signal Name         |
|-------------|------|------|---------------------|
| NC          | 1    | 2    | POWER LED+          |
| Ground      | 3    | 4    | POWER LED-( Ground) |
| Ground      | 5    | 6    | PWR_ON              |
| NC          | 7    | 8    | Ground              |
| NC          | 9    | 10   | NC                  |

#### DC\_IN :

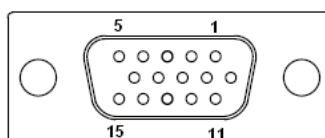
(5.08mm Pitch 1x3 Pin Connector),DC9V ~ DC32V System power **input** connector °



| Pin# | Power Input |
|------|-------------|
| Pin1 | DC+9V~32 V  |
| Pin2 | Ground      |
| Pin3 | PG          |

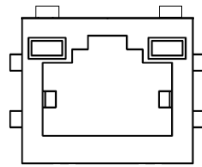
#### CRT1 :

(CRT Connector DB15),Video Graphic Array Port, provide high-quality video output.



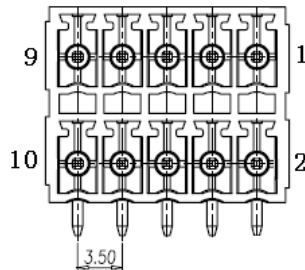
#### LAN1 :

(RJ45 Connector)\_LAN port,One standard 10/100M RJ-45 Ethernet ports are provided. Used ASIX AX88772A chipset, LINK LED (green) and ACTIVE LED (yellow) respectively located at the left-hand and right-hand side of the Ethernet port indicate the activity and transmission state of LAN.



### GPIO :

(3.5mm Pitch 2x5 Pin Connector), General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.



| Function   | Signal Name   | Pin# |    | Signal Name | Function   |
|------------|---------------|------|----|-------------|------------|
|            | +5V           | 1    | 2  | Ground      |            |
| GPIO_IN1   | EXT_GPIO9     | 3    | 4  | EXT_GPIO 6  | GPIO_IN2   |
| GPIO_IN3   | EXT_GPIOSU S0 | 5    | 6  | EXT_GPIO 2  | GPIO_IN4   |
| GPIO_OUT 1 | EXT_GPIO8     | 7    | 8  | EXT_GPIO 3  | GPIO_OUT 2 |
| GPIO_OUT 3 | EXT_GPIO4     | 9    | 10 | EXT_GPIO 1  | GPIO_OUT 4 |

### GPIO1 (option) :

(2.0mm Pitch 2x5 Pin Header), General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.

| Function   | Signal Name | Pin# |    | Signal Name   | Function   |
|------------|-------------|------|----|---------------|------------|
|            | Ground      | 1    | 2  | EXT_GPIO9     | GPIO_IN1   |
| GPIO_IN2   | EXT_GPIO 6  | 3    | 4  | EXT_GPIOSU S0 | GPIO_IN3   |
| GPIO_IN4   | EXT_GPIO 2  | 5    | 6  | EXT_GPIO8     | GPIO_OUT 1 |
| GPIO_OUT 2 | EXT_GPIO 3  | 7    | 8  | EXT_GPIO4     | GPIO_OUT 3 |
| GPIO_OUT 4 | EXT_GPIO 1  | 9    | 10 | +5V           |            |

**SW1 :**

**POWER on/off Button:** They are power switch button.

**PWR LED:** POWER LED status.

**F\_AUDIO :**

(2.0mm Pitch 2x6 Pin Header), Front Audio, An onboard Realtek ALC662 codec is used to provide high-quality audio I/O ports. Line Out can be connected to a headphone or amplifier. Line In is used for the connection of external audio source via a Line in cable. MIC is the port for microphone input audio.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| VCC(+5V)    | 1    | 2    | Ground      |
| LINE_OUT_L  | 3    | 4    | LINE_OUT_R  |
| NC          | 5    | 6    | NC          |
| LINE_IN_L   | 7    | 8    | LINE_IN_R   |
| MIC_IN_L    | 9    | 10   | MIC_IN_R    |
| Ground      | 11   | 12   | NC          |

**PS2 :**

(2.0mm Pitch 2x5 Pin Header), PS/2 keyboard and mouse port, the port can be connected to PS/2 keyboard or mouse via a dedicated cable for direct used.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| 5V_USB01    | 1    | 2    | 5V_USB01    |
| NC          | 3    | 4    | NC          |
| KB_DATA     | 5    | 6    | MS_DATA     |
| KB_CLK      | 7    | 8    | MS_CLK      |
| Ground      | 9    | 10   | Ground      |

**COM2/COM4 :**

(2.0mm Pitch 2X5 Pin Header), COM2 and COM4 Port, up to 2 standard RS232 ports are provided. They can be used directly via COM cable connection.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| DCD         | 1    | 2    | RXD         |
| TXD         | 3    | 4    | DTR         |
| Ground      | 5    | 6    | DSR         |
| RTS         | 7    | 8    | CTS         |
| RI          | 9    | 10   | NC          |

## 3.1 Operations after POST Screen

After CMOS discharge or BIOS flashing operation, the system will display the following screen for your further operation. Press Delete key to enter CMOS Setup.



After optimizing and exiting CMOS Setup, the POST screen displayed for the first time is as follows and includes basic information on BIOS, CPU, memory, and storage devices.



Press **F11** key to enter Boot Menu during POST, as shown by the following figure.



↑ and ↓ to move selection  
 ENTER to select Boot device  
 ESC to boot using defaults

## 3.2 BIOS SETUP UTILITY

Press [Del] key to enter BIOS Setup utility during POST, and then a main menu containing system summary information will appear.

| BIOS SETUP UTILITY |          |                     |      |            |                        |      |
|--------------------|----------|---------------------|------|------------|------------------------|------|
| Main               | Advanced | PCIPnP              | Boot | Security   | Chipset                | Exit |
| System Overview    |          |                     |      |            | User [ENTER] , [TAB]   |      |
| AMIBIOS            |          |                     |      |            | or [SHIFT-TAB] to      |      |
| Version            |          | : 08.00.15          |      |            | Select a field         |      |
| Build Date         |          | : 07/16/11          |      |            |                        |      |
| ID                 |          | : B705M007          |      |            | Use[+] or [-] to       |      |
|                    |          |                     |      |            | configure system Time. |      |
| Processor          |          |                     |      |            |                        |      |
| Intel(R)           | Atom(TM) | CPU                 | Z510 | @          |                        |      |
| 1.10GHz            |          |                     |      |            |                        |      |
| Speed              |          | :600MHz             |      |            |                        |      |
| Count              |          | :1                  |      |            | ← Select Screen        |      |
|                    |          |                     |      |            | ↑↓ Select Item         |      |
| System Memory      |          |                     |      |            | +- Charge Field        |      |
| Size               |          | :1019MB             |      |            | Tab Select Field       |      |
|                    |          |                     |      |            | F1 General Help        |      |
| System Time        |          |                     |      | [00:00:18] | F10 Save and Exit      |      |
| System Date        |          |                     |      |            | ESC Exit               |      |
| [Wed 07/16/2011]   |          |                     |      |            |                        |      |
| CMC                |          | LO-Module:0D2.023x, |      |            |                        |      |
| Hi-Module:0d2.016x |          |                     |      |            |                        |      |

### 3.3 System Overview

| BIOS SETUP UTILITY   |  |
|--|--|
| Main   | Advanced    PCI/PnP    Boot    Security    Chipset    Exit |
| <b>System Overview</b>   |  |
| <b>AMIBIOS</b><br>Version : 08.00.15<br>Build Date : 07/16/11<br>ID : B705M007   |  |
| <b>Processor</b><br>Intel(R) Atom(TM) CPU Z510 @<br>1.10GHz<br>Speed : 600MHz<br>Count : 1                                   |  |
| <b>System Memory</b><br>Size : 1019MB  |  |
| System Time [00:02:28]<br>System Date [Wed 07/16/2011]<br>CMC LO-Module:0D2.023x, Hi-Module:0d2.016x                         |  |
| User [ENTER] , [TAB]<br>or [SHIFT-TAB] to<br>Select a field<br><br>Use[+] or [-] to<br>configure system Time.                |  |
| ← Select Screen<br>↑↓ Select Item<br>+- Charge Field<br>Tab Select Field<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |  |
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#### System Time:

Set the system time, the time format is:

Hour : 0 to 23

Minute : 0 to 59

Second : 0 to 59

#### System Date:

Set the system date, the date format is:

**Day:** Note that the 'Day' automatically changes when you set the date.

**Month:** 01 to 12

**Date:** 01 to 31

**Year:** 2009 to 2099

## 3.4 Advanced Settings

| BIOS SETUP UTILITY  |          |                    |      |          |         |      |
|---|----------|--------------------|------|----------|---------|------|
| Main  | Advanced | PCIPnP             | Boot | Security | Chipset | Exit |
| <b>Advanced Settings</b>  |          | Configure CPU      |      |          |         |      |
| <b>WARNING: Setting wrong values In below sections<br/>may cause system to malfunction.</b> |          |                    |      |          |         |      |
| ▶ CPU Configuration   |          |                    |      |          |         |      |
| ▶ IDE Configuration   |          |                    |      |          |         |      |
| ▶ Super IO Configuration  |          |                    |      |          |         |      |
| ▶ ACPI Configuration  |          |                    |      |          |         |      |
| ▶ MPS Configuration   |          | ← Select Screen    |      |          |         |      |
| ▶ PCI Express Configuration   |          | ↑↓ Select Item     |      |          |         |      |
| ▶ Smbios Configuration  |          | Enter Charge Field |      |          |         |      |
| ▶ USB Configuration   |          | F1 General Help    |      |          |         |      |
|   |          | F10 Save and Exit  |      |          |         |      |
|   |          | ESC Exit           |      |          |         |      |
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### 3.4.1 CPU Configuration

| BIOS SETUP UTILITY                     |                        |
|--|------------------------|
| Advanced                               |                        |
| <b>Configure advanced CPU settings</b> | This should be enabled |
| Module Version: 3F.0D                  | In order to enable or  |
| Manufacturer : Intel                   | Disable the Hardware   |
| Intel(R) Atom(TM) CPU Z510 @ 1.10GHz   | Prefetcher Disable     |
| Frequency :600MHz                      | Feature.               |
| FSB Speed : 400MHz                     |                        |
| Cache L1 :24 KB                        |                        |
| Cache L2 :512 KB                       |                        |
| Ratio Actual Value :6                  |                        |
| Hardware Prefetcher [Enabled]          | ← Select Screen        |
| Adjacent Cache Line Prefetch [Enabled] | ↑↓ Select Item         |



|  |            |                   |
|--|------------|-------------------|
| Max CPUID Value Limit                                    | [Disabled] | + - Charge Field  |
| Intel (R) Virtualization Tech                            | [Enabled]  | F1 General Help   |
| Execute-Disable Bit Capability                           | [Enabled]  | F10 Save and Exit |
| Hyper Threading Technology                               | [Enabled]  | ESC Exit          |
| Intel(R) SpeedStep (tm) tech                             | [Disabled] |                   |
| Intel(R) C-SATAE tech                                    | [Disabled] |                   |
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#### Hardware Prefetcher:

[Enabled]

[Disabled]

#### Adjacent Cache Line Prefetch:

[Enabled]

[Disabled]

#### Max CPUID Value Limit:

[Disabled]

[Enabled]

#### Execute-Disable Bit Capability:

[Enabled]

[Disabled]

#### Hyper Threading Technology:

[Enabled]

[Disabled]

#### Intel(R) SpeedStep (tm) tech:

[Disabled]

[Enabled]

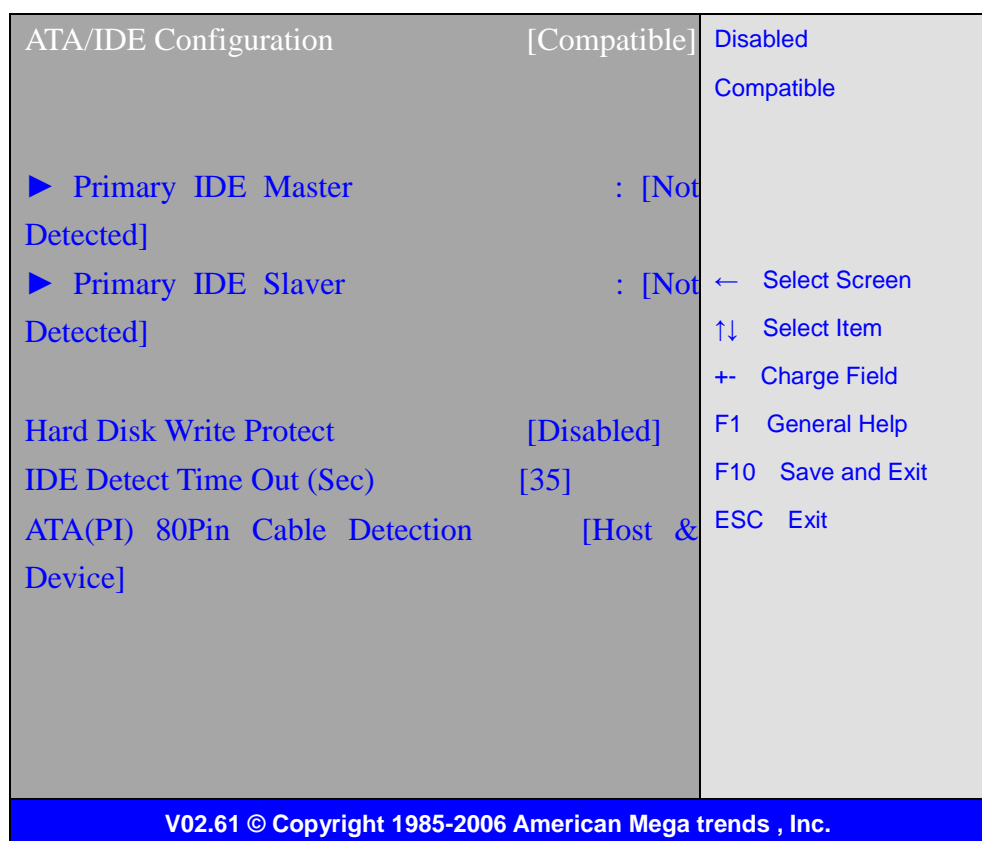
#### Intel(R) C-SATAE tech:

[Disabled]

[Enabled]

### 3.4.2 IDE Configuration

| BIOS SETUP UTILITY |         |
|--------------------|---------|
| Advanced           |         |
| IDE Configuration  | Options |



#### ATA/IDE Configuration:

**[Compatible]**

[Disabled]

#### Hard Disk Write Protect:

**[Disabled]**

[Enabled]

#### IDE Detect Time Out :

**[35]**

[0]

[5,10,15,20,25,30]

#### ATA(PI) 80Pin Cable Detection:

[Host & Device]

[Host]

[Device]

### 3.4.3 Super IO Configuration



|  |          |  |
|--|----------|--|
| Serial Port1 Address                                     | [3F8]    | Serial Port Base Address.  |
| Serial Port1 Mode  | [RS-232] |  |
| Serial Port2 Address                                     | [2F8]    |  |
| Serial Port3 Address                                     | [3E8]    |  |
| Serial Port3 IRQ   | [IRQ4]   |  |
| Serial Port4 Address                                     | [2E8]    |  |
| Serial Port4 IRQ   | [IRQ3]   |  |
|  |          | ← Select Screen<br>↑↓ Select Item<br>+- Change Field<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |
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### Serial Port1 Mode:

COM1 Options: **[RS232 ]**  
[RS485]  
[RS232] for RS232 Mode  
[RS485] for RS485/RS422 Mode

### 3.4.4 ACPI Configuration

ACPI Setting:

[Advanced ACPI Configuration]

ACPI Version Features:

**[ACPI V3.0]**  
[ACPI V2.0]  
[ACPI V1.0]

ACPI APIC support:

**[Enabled]**  
[Disabled]

AMI OEMB table:

**[Enabled]**  
[Disabled]

Headless mode:

**[Disabled]**  
[Enabled]

[Chipset ACPI Configuration]:  
APIC ACPI SCI IRQ:  
**[Disabled]**  
[Enabled]

USB Device Wakeup From S3/S4:  
**[Disabled]**  
[Enabled]

### 3.4.5 MPS Configuration

| BIOS SETUP UTILITY                                       |                   |
|--|-------------------|
| Advanced   |                   |
| <b>MPS Configuration</b>                                 | Select MPS        |
| MPS Revision [1.4]                                       | Revision          |
|  | ← Select Screen   |
|  | ↑↓ Select Item    |
|  | + - Charge Field  |
|  | F1 General Help   |
|  | F10 Save and Exit |
|  | ECS Exit          |
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MPS Revision:  
**[1.4]**  
[1.1]

### 3.4.6 PCI Express Configuration

| BIOS SETUP UTILITY               |                     |
|----------------------------------|---------------------|
| Advanced                         |                     |
| <b>PCI Express Configuration</b> | Enables/Disables    |
| Active State Power -Management   | PCI Express L0s and |
| [Disabled]                       | L1 Link Power       |
|                                  | States.             |
|                                  | ← Select Screen     |
|                                  | ↑↓ Select Item      |
|                                  | + - Charge Field    |

|  |  |
|--|--|
|  | F1 General Help<br>F10 Save and Exit<br>ESC Exit |
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Active State Power Management:

**[Disabled]**

[Enabled]

### 3.4.7 Smbios Configuration

| BIOS SETUP UTILITY                                       |  |
|--|--|
| Advanced   |  |
| <b>Smbios Configuration</b>                              | SMBIOS SMI Wrapper   |
| Smbios Smi Support [Enabled]                             | Support for PnP Func<br>50h-54h  |
|  | ← Select Screen<br>↑↓ Select Item<br>+- Change Field<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |
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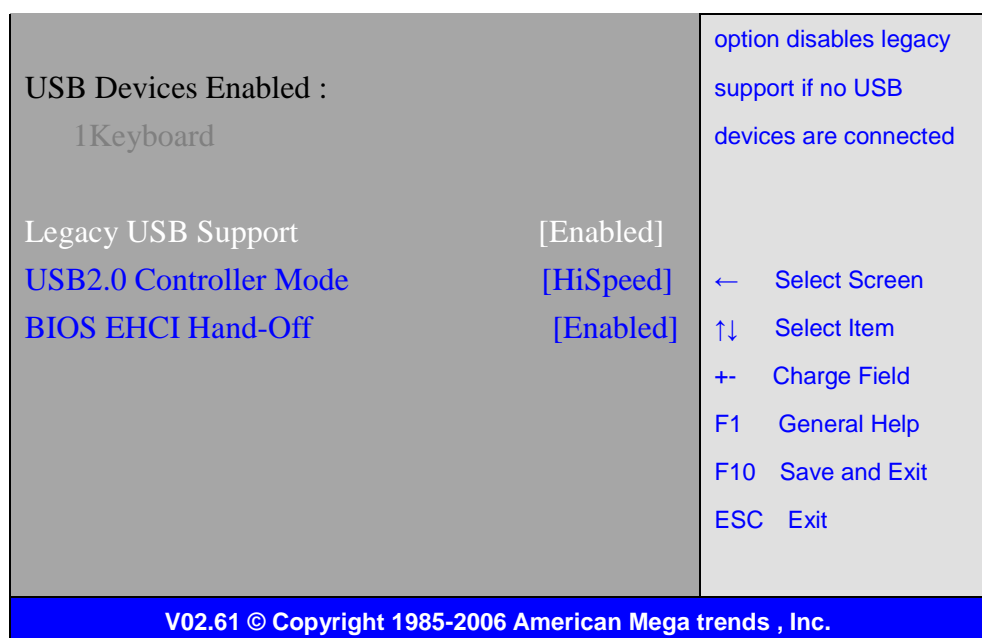
Smbios Smi Support:

**[Enabled]**

[Disabled]

### 3.4.8 USB Configuration

| BIOS SETUP UTILITY           |                     |
|------------------------------|---------------------|
| Advanced                     |                     |
| <b>USB Configuration</b>     | Enables support for |
| Module Version – 2.24.3-13.4 | legacy USB.AUTO     |



**Legacy USB Support:**

**[Enabled]**

[Disabled]

**USB2.0 Controller Mode:**

**[HiSpeed]**

[FullSpeed]

**BIOS EHCI Hand-Off:**

**[Enabled]**

[Disabled]

## **3.5 Advanced PCI/PnP Settings**

This part describes configurations to be made on PCI bus system. PCI, namely Personal Computer Interconnect, is a computer bus that allows I/O device to operate nearly as fast as CPU in its own way. Some technical terms will be mentioned here. **We recommend that non-professional users not make changes from factory default settings.**

**BIOS SETUP UTILITY**

|      |          |        |      |          |         |      |
|------|----------|--------|------|----------|---------|------|
| Main | Advanced | PCIPNP | Boot | Security | Chipset | Exit |
|------|----------|--------|------|----------|---------|------|

### Advanced PCI/PnP Settings

**WARNING: Setting wrong values In below sections may cause system to malfunction.**

Clear NVRAM [No]

Plug & Play O/S [No]

PCI Latency Timer [64]

Allocate IRQ to PCI VGA [Yes]

Palette Snooping [Disabled]

PCI IDE BusMaster [Disabled]

OffBoard PCI/ISA IDE Card [Auto]

IRQ3 [Available]

IRQ4 [Available]

IRQ5 [Available]

IRQ7 [Available]

IRQ9 [Available]

IRQ10 [Available]

IRQ11 [Available]

Clear NURAM during System Boot.

← Select Screen

↑↓ Select Item

+ - Charge Field

F1 General Help

F10 Save and Exit

ESC Exit

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#### Clear NVRAM:

[No]

[Yes]

#### Plug & Play OS:

[No]

[Yes]

#### PCI Latency Timer:

[64]

[32]

[96]  
[128]  
[160]  
[192]  
[224]  
[248]

**Allocate IRQ to PCI VGA:**

[Yes]  
[No]

**Palette Snooping:**

[Disabled]  
[Enabled]

**PCI IDE BusMaster:**

[Disabled]  
[Enabled]

**OffBoard PCI/ISA IDE Card:**

Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card. Auto:Works for most PCI IDE Cards.

[Auto]  
[PCI Slot1]  
[PCI Slot2]  
[PCI Slot3]  
[PCI Slot4]  
[PCI Slot5]  
[PCI Slot6]

**IRQ3/4/5/7/9/10/11/14/15:**

[Available]  
[Reserved]

Available: Specified IRQ is available to be used by PCI/PnP devices.

Reserved: Specified IRQ is reserved for use by legacy ISA devices.

**DMA Channel 0/1/3/5/6/7:**

[Available]  
[Reserved]

Available: Specified DMA is available to be used by PCI/PnP devices.

Reserved: Specified DMA is reserved for use by legacy ISA devices.



### Reserved Memory Size:

Size of memory block to reserve for legacy ISA devices.

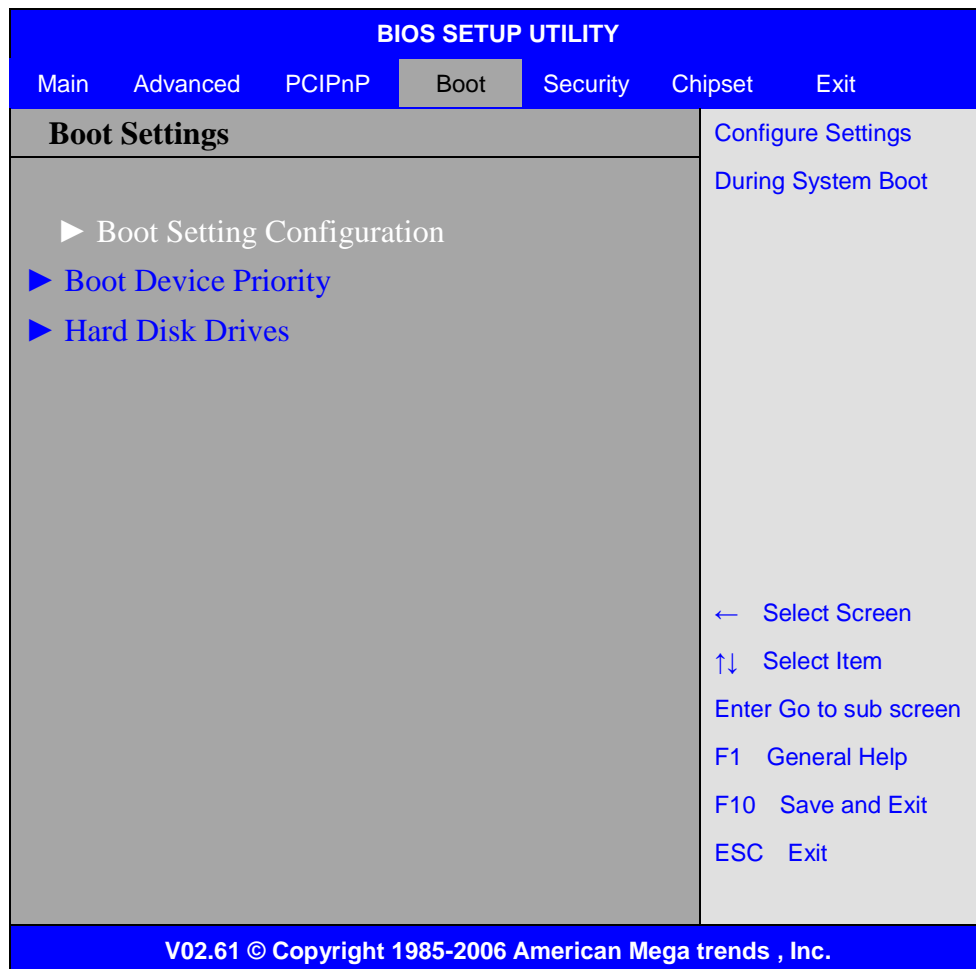
[Disabled]

[16k]

[32k]

[64k]

## 3.6 Boot Settings



### Boot Setting Configuration :

Configure Settings during System Boot.

Quick Boot:

**[Enabled]**

**[Disabled]**

Allows BIOS to skip certain tests while booting .This will decrease the time needed to boot the system.

Quiet Boot:

**[Disabled]**

**[Enabled]**

Disabled: Displays normal POST messages.

Enabled: Displays OEM logo instead of POST messages.

AddOn ROM Display Mode:

Set display mode for Option ROM.

**[Force BIOS]**

**[Keep Current]**

Bootup Num-Lock:

Select Power-on state for Numlock.

**[On]**

**[Off]**

Wait For 'F1' If Error:

Wait for F1 key to be pressed if error occurs.

**[Enabled]**

**[Disabled]**

Hit 'DEL' Messgae Display :

Displays "press" DEL to run Setup in POST.

**[Enabled]**

**[Disabled]**

Interrupt 19 Capture:

Enabled: Allows option ROMs to trap interrupt 19.

**[Disabled]**

**[Enabled]**

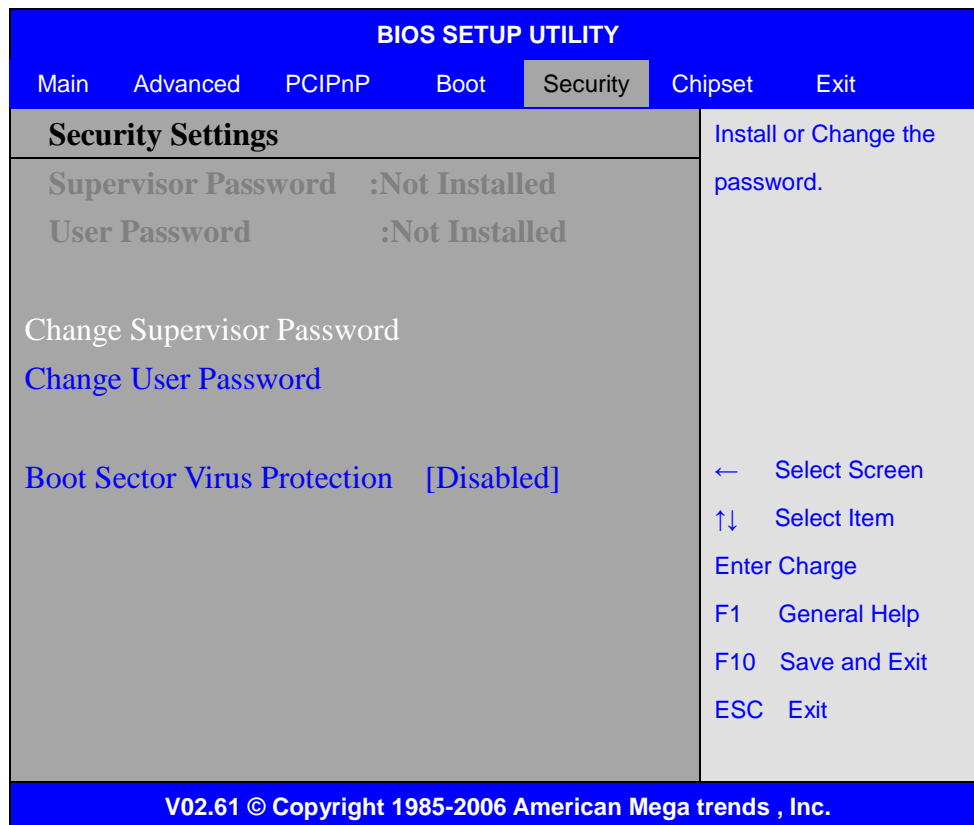
**Boot Device Priority:**

Specifies the Boot Device Priority sequence.

**Hard Disk Devices :**

Specifies the Boot Device Priority sequence from available Hard Drives.

## 3.7 Security Settings



Change Supervisor Password:

Install or Change the password.

Change User Password:

Install or Change the password.

Boot Sector Virus Protection:

[Disabled]

[Enabled]

Enabled / Disabled Boot Sector Virus Protection.

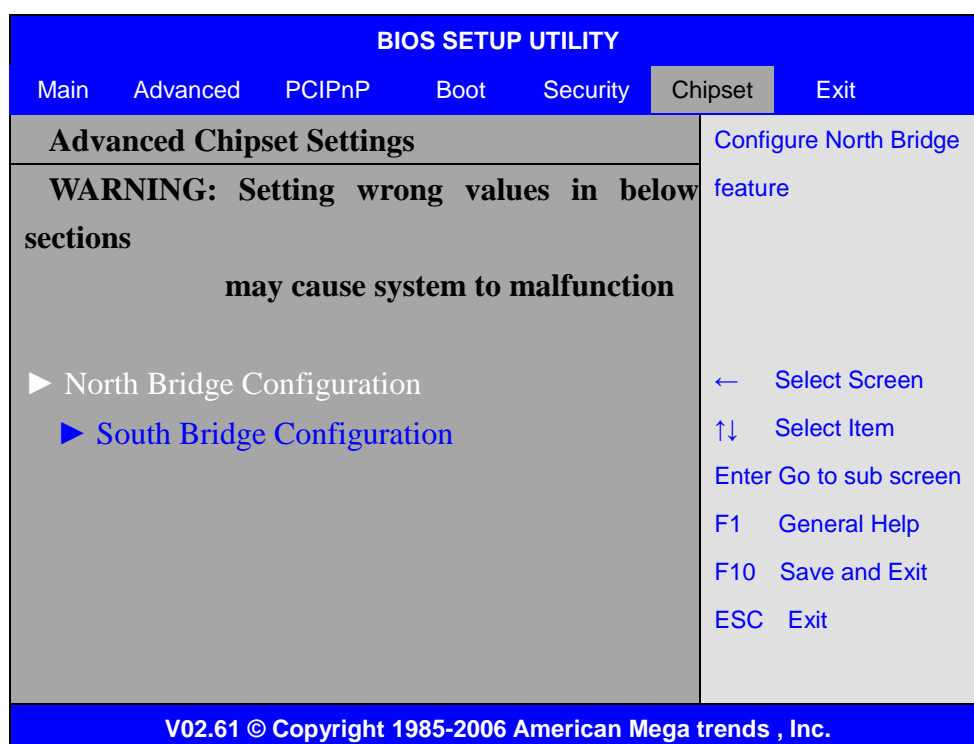
Type the password with up to 6 characters and then press <Enter> key. This will clear all previously typed CMOS passwords. You will be requested to confirm the password. Type the password again and press <Enter> key. You may press <Esc> key to abandon password entry operation.

To clear the password, just press <Enter> key when password input window pops up. A confirmation message will be shown on the screen as to whether the password will be disabled. You will have direct access to BIOS setup without typing any password after system reboot once the password is disabled.

Once the password feature is used, you will be requested to type the password each time you enter BIOS setup. This will prevent unauthorized persons from changing your system configurations.

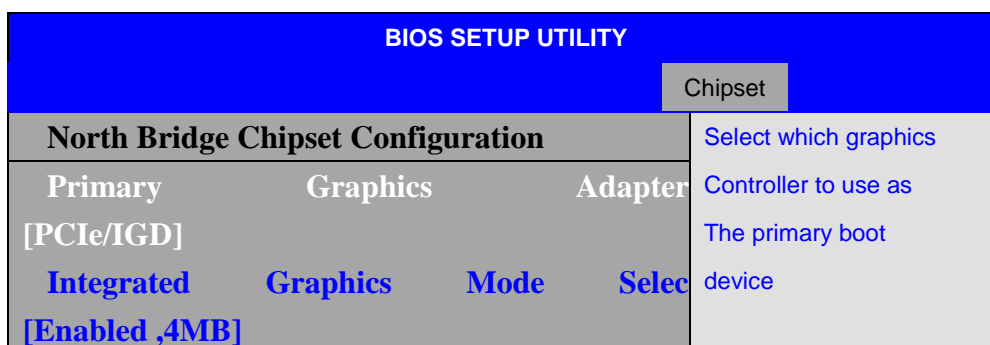
Also, the feature is capable of requesting users to enter the password prior to system boot to control unauthorized access to your computer. Users may enable the feature in Security Option of Advanced BIOS Features. If Security Option is set to System, you will be requested to enter the password before system boot and when entering BIOS setup; if Security Option is set to Setup, you will be requested for password for entering BIOS setup.

## 3.8 Advanced Chipset Settings



Note: Due to limited address length of BIOS, only a portion of panel parameters are listed in BIOS Setup. If the connected panel is not included in the parameter list, display problem will occur. In this case, Please do not change BIOS setup.

### 3.8.1 North Bridge Configuration



|  |  |
|--|--|
| ▶ Boot Display Configuration                             | ← Select Screen<br>↑↓ Select Item<br>+- Charge Field<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |
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Primary Graphics Adapter:

- [PCIe/IGD]
- [IGD]

Integrated Graphics Mode Selec:

- [Enabled ,4MB]
- [Enabled ,1MB]
- [Enabled ,8MB]
- [Disabled]

Boot Display Configuration:

| BIOS SETUP UTILITY         |           |   |
|----------------------------|-----------|---|
|                            |           | Chipset   |
| Boot Display Configuration |           | Options   |
| Boot Display Device        | [Auto]    | Auto  |
| Local Flat Panel Scaling   | [Auto]    | Integrated LVDS   |
| Flat Panel Type            | [1024x768 | External DVI/HDMI   |
| 18bit ]                    |           | External TV   |
| Panel Brightness Control   | [Level 9] | External CRT  |
| DPST Control               |           | External LVDS   |
| [VBIOS-Default]            |           |   |
| TV                         | Standard  |   |
| [VBIOS-Default]            |           |   |
|                            |           | ← Select Screen<br>↑↓ Select Item<br>+- Charge option<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |

**Boot Display Device:**

**[Auto]**

[Integrated LVDS]

[External DVI/HDMI]

[External TV]

[External CRT]

[External LVDS]

**Flat Panel Type:**

**[1024x 768 18bit ]**

[640x480 18bit ]

[800x600 18bit ]

[800x480 18bit ]

[1024x600 18bit ]

[1280x768 18bit ]

[1280x800 18bit ]

[1024x768 24bit ]

[1366x768 18bit ]

**Panel Backlight Control:**

**[Level9]**

[Level0]

[Level1]

[Level2]

[Level3]

[Level4]

[Level6]

[Level7]

[Level8]

[Level9]

[Level10]

[Level11]

[Level12]

[Level13]

[Level14]

[Level15]

[Level16]



Note: Panel support PWM Function.

#### DPST Control:

##### [VBIOS-Default]

[DPST Disabled]  
[DPST Enabled at Level]  
[DPST Enabled at Leve2]  
[DPST Enabled at Leve3]  
[DPST Enabled at Leve4]  
[DPST Enabled at Leve5]

#### TV Standard:

##### [VBIOS-Default]

[NTSC]  
[PAL]  
[SECAM]  
[SMPTE240M]  
[ITU-R television]  
[SMPTE295M]  
[SMPTE296M]  
[CEA 7702]  
[CEA 7703]

### 3.8.2 South Bridge Configuration:

| BIOS SETUP UTILITY                 |            |                  |
|------------------------------------|------------|------------------|
|                                    |            | Chipset          |
| South Bridge Chipset Configuration |            | Number of UCHI   |
| USB Functions                      | [8 USB     | Ports in system  |
| Ports]                             |            | ECHI ONLY is     |
| USB2.0 Controller                  | [Enabled]  | Automatically    |
| USB Client Controller              | [Disabled] | Assed.           |
| SDIO Controller                    | [Enabled]  |                  |
| Audio Controller Codec             | [Auto]     |                  |
| Reserved Page Route                | [LPC]      |                  |
| Serial IRQ Mode                    | [Quiet]    | ← Select Screen  |
| PCIE Ports Configuration           |            | ↑↓ Select Item   |
|                                    |            | + - Charge Field |

|  |        |                   |
|--|--------|-------------------|
| PCIE Port 0  | [Auto] | F1 General Help   |
| PCIE Port 1  | [Auto] | F10 Save and Exit |
|  |        | ESC Exit          |
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## USB Functions:

**[8 USB Ports]**

[Disabled] ,

[2 USB Ports]

[4 USB Ports]

[6 USB Ports]

## USB 2.0 Controller:

**[Enabled]**

[Disabled]

## USB Client Controller:

**[Disabled]**

[Enabled]

## SDIO Controller:

**[Enabled]**

[Disabled]

## Audio Controller Codec:

**[Auto]**

[Azalia]

[Disabled]

## Reserved Page Route:

**[LPC]**

[PCI]

## PCIE Ports Configuration:

PCIE Port 0:

**[Auto]**

[Enabled]

[Disabled]

PCIE Port 1:

**[Auto]**

[Enabled]

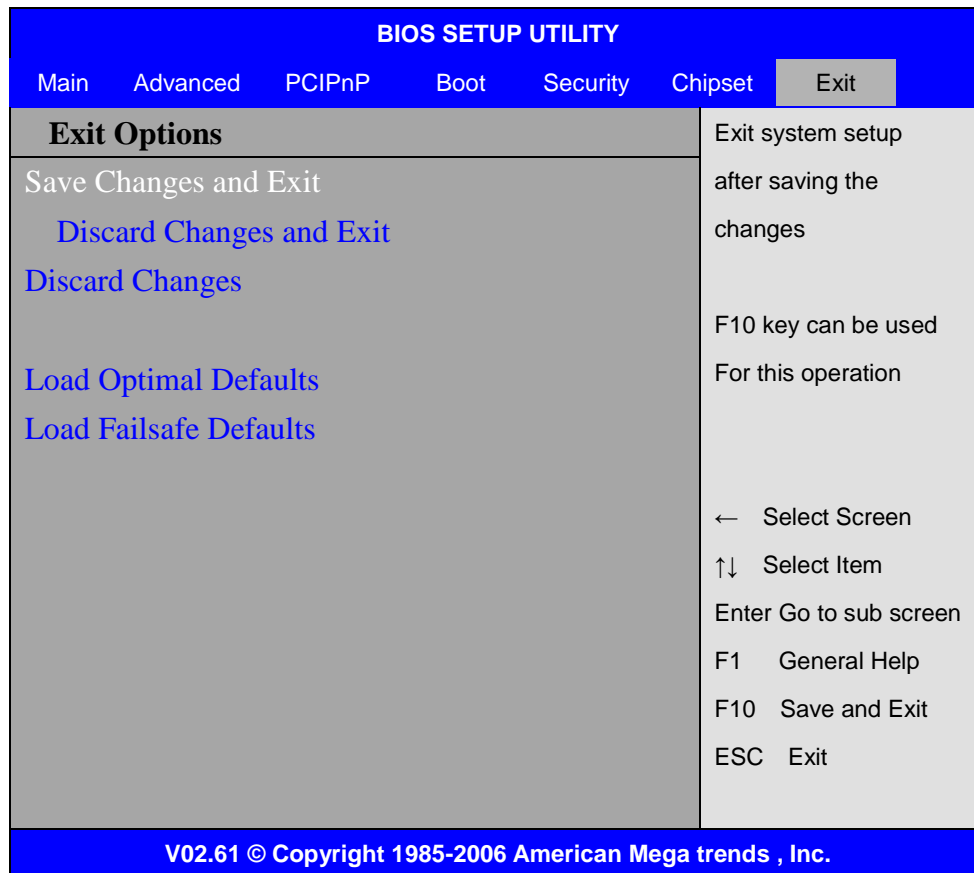


[Disabled]

[Enabled]

[Disabled]

## 3.9 Exit Options



### Save Changes and Exit:

Save configuration changes and exit setup?

(F10 key can be used for this operation)

[OK]

[Cancel]

### Discard Changes and Exit:

Discard Changes and Exit setup?

(ESC key can be used for this operation)

[OK]

[Cancel]

### Discard Changes:

Discard changes?

(F7 key can be used for this operation)

[OK]

[Cancel]

### Load Optimized Defaults:

Load Optimized Defaults?

(F9 key can be used for this operation)

[OK]

[Cancel]

### Load FailSafe Defaults:

Load FailSafe Defaults?

(F9 key can be used for this operation)

[OK]

[Cancel]

## 3.10 TB515 BIOS SETUP (option)

| BIOS SETUP UTILITY  |   |
|---|---|
| Main  | Advanced    PCIPnP    Boot    Security    Chipset    Exit |
| <b>System Overview</b>  |   |
| <b>AMIBIOS</b>  |   |
| Version   | : 08.00.15  |
| Build Date  | : 03/07/11  |
| ID  | : TB515M003   |
| <b>Processor</b>  |   |
| Intel(R) Atom(TM) CPU   | Z530 @  |
| 1.60GHz   |   |
| Speed   | :800MHz   |
| Count   | :1  |
| <b>System Memory</b>  |   |
| Size  | :1019MB   |
| System Time   | [00:02:29]  |
| System Date   | [Wed 03/07/2011]  |
| CMC LO-Module:0D2.023x, Hi-Module:0d2.016x  |   |
| User [ENTER] , [TAB]<br>or [SHIFT-TAB] to<br>Select a field<br><br>Use[+] or [-] to<br>configure system Time.<br><br>← Select Screen<br>↑↓ Select Item<br>+- Charge Field<br>Tab Select Field<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |   |
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### Boot Display Configuration:

| BIOS SETUP UTILITY                                       |                   | Chipset           |
|--|-------------------|-------------------|
| <b>Boot Display Configuration</b>                        |                   | Options           |
| Boot Display Device                                      | [External CRT]    | Auto              |
| Local Flat Panel Scaling                                 | [Auto]            | Integrated LVDS   |
| Flat Panel Type  | [1024x768 18bit ] | External DVI/HDMI |
| Panel Brightness Control                                 | [Level 9]         | External TV       |
| DPST Control   | [VBIOS-Default]   | External CRT      |
| TV   | Standard          | ← Select Screen   |
| [VBIOS-Default]  |                   | ↑↓ Select Item    |
|  |                   | + - Charge option |
|  |                   | F1 General Help   |
|  |                   | F10 Save and Exit |
|  |                   | ESC Exit          |
| V02.61 © Copyright 1985-2006 American Mega trends , Inc. |                   |                   |

### Boot Display Device:

**[Auto]**

[Integrated LVDS]

[External DVI/HDMI]

[External TV]

[External CRT]

### Flat Panel Type:

**[1024x 768 18bit ]**

[640x480 18bit ]

[800x600 18bit ]

[1280x768 18bit ]

[1280x800 18bit ]

[1024x 768 24bit ]

### Panel Backlight Control:

**[Level9]**

[Level0]

[Level1]

[Level2]  
[Level3]  
[Level4]  
[Level6]  
[Level7]  
[Level8]  
[Level9]  
[Level10]  
[Level11]  
[Level12]  
[Level13]  
[Level14]  
[Level15]  
[Level16]

**DPST Control:**

**[VBIOS-Default]**  
[DPST Disabled]  
[DPST Enabled at Level]  
[DPST Enabled at Leve2]  
[DPST Enabled at Leve3]  
[DPST Enabled at Leve4]  
[DPST Enabled at Leve5]

**TV Standard:**

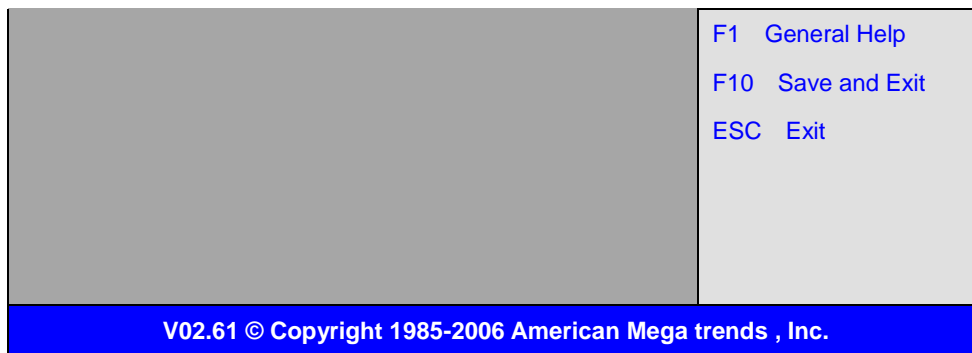
**[VBIOS-Default]**  
[NTSC]  
[PAL]  
[SECAM]  
[SMPTE240M]  
[ITU-R television]  
[SMPTE295M]  
[SMPTE296M]  
[CEA 7702]  
[CEA 7703]

### 3.11 TB-516 BIOS SETUP (option)

| BIOS SETUP UTILITY   |   |
|--|---|
| Main   | Advanced    PCIPnP    Boot    Security    Chipset    Exit |
| <b>System Overview</b>   |   |
| <b>AMIBIOS</b><br>Version : 08.00.15<br>Build Date : 01/28/11<br>ID : TB516001   |   |
| <b>Processor</b><br>Intel(R) Atom(TM) CPU Z530 @ 1.60GHz<br>Speed : 800MHz<br>Count : 1                                      |   |
| <b>System Memory</b><br>Size : 1019MB  |   |
| System Time [00:02:29]<br>System Date [Wed 01/28/2011]<br>CMC LO-Module:0D2.023x, Hi-Module:0d2.016x                         |   |
| User [ENTER] , [TAB] or [SHIFT-TAB] to Select a field<br><br>Use[+] or [-] to configure system Time.                         |   |
| ← Select Screen<br>↑↓ Select Item<br>+- Charge Field<br>Tab Select Field<br>F1 General Help<br>F10 Save and Exit<br>ESC Exit |   |
| V02.61 © Copyright 1985-2006 American Mega trends , Inc.   |   |

#### Boot Display Configuration:

| BIOS SETUP UTILITY  |  |
|---|--|
| Chipset   |  |
| <b>Boot Display Configuration</b>   |  |
| Boot Display Device [Auto]<br>Local Flat Panel Scaling [Auto]<br>Flat Panel Type [1024x768 18bit 1ch ]<br>Panel Brightness Control [Level 9]<br>DPST Control [VBIOS-Default]<br>TV Standard [VBIOS-Default] |  |
| <b>Options</b><br>Auto<br>External LVDS   |  |
| ← Select Screen<br>↑↓ Select Item<br>+- Charge option   |  |



### Boot Display Device:

[Auto]  
[External LVDS]

### Flat Panel Type:

[1024x 768 18bit 1ch]  
[1280x 1024 24bit 2ch]  
[1400x 1050 24bit 2ch]  
[1600x 1200 24bit 2ch]

### Panel Backlight Control:

[Level9]  
[Level0]  
[Level1]  
[Level2]  
[Level3]  
[Level4]  
[Level6]  
[Level7]  
[Level8]  
[Level9]  
[Level10]  
[Level11]  
[Level12]  
[Level13]  
[Level14]  
[Level15]  
[Level16]

### DPST Control:

[VBIOS-Default]  
[DPST Disabled]  
[DPST Enabled at Level]

[DPST Enabled at Leve2]  
[DPST Enabled at Leve3]  
[DPST Enabled at Leve4]  
[DPST Enabled at Leve5]

**TV Standard:**

**[VBIOS-Default]**  
[NTSC]  
[PAL]  
[SECAM]  
[SMPTE240M]  
[ITU-R television]  
[SMPTE295M]  
[SMPTE296M]  
[CEA 7702]  
[CEA 7703]

# Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows XP. The software and drivers are included with the motherboard. The contents include **Intel chipset driver, VGA driver, LAN drivers, Audio driver, AX88772\_772A driver.**

Installation instructions are given below.

## Important Note:

After installing your Windows operating system (Windows XP), you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.





## 4.1 Intel Chipset Driver

To install the Intel chipset driver, please follow the steps below.

**Step 1.** Select **Intel(R) Chipset US15W** from the list



**Step 2.** Click **Next** to setup program.



**Step 3.** Read the license agreement. Click **Yes** to accept the terms of the license agreement.



**Step 4.** Click **Next** to continue.





**Step 5. Click Next.**



**Step 6. Select Yes, I want to restart this computer now.** Click **Finish** then remove any installation media from the drives.



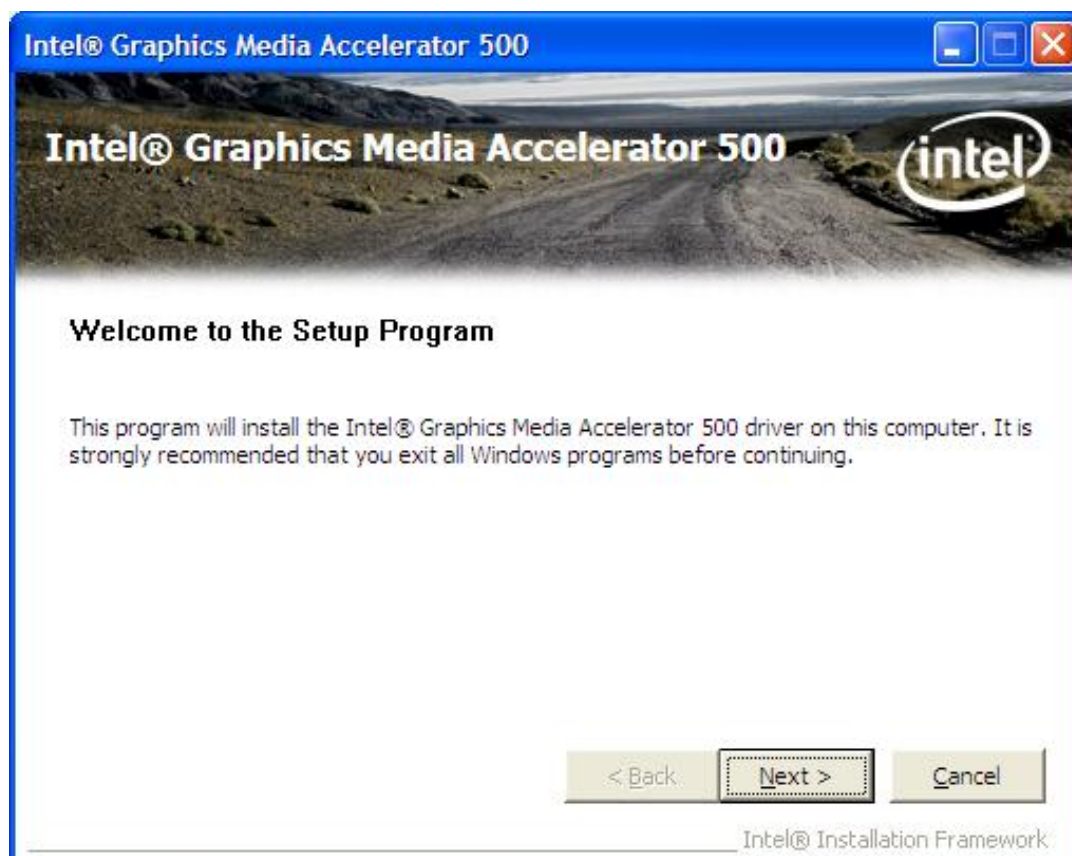
## 4.2 Intel Graphics Media Accelerator Driver

To install the VGA drivers, follow the steps below to proceed with the installation.

**Step 1.** Select **Intel (R) Graphics Media Accelerator 500 Chip**.

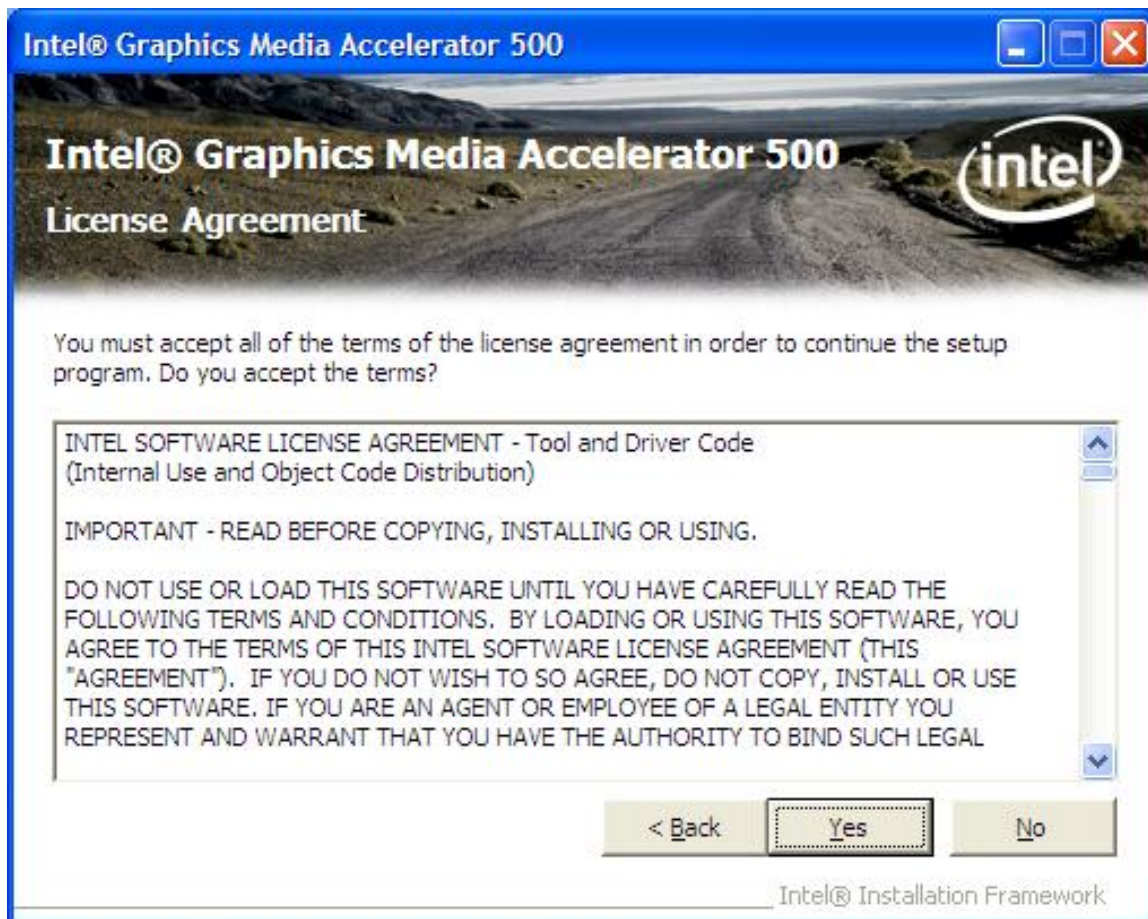


**Step 2.** Click **Next** to continue.

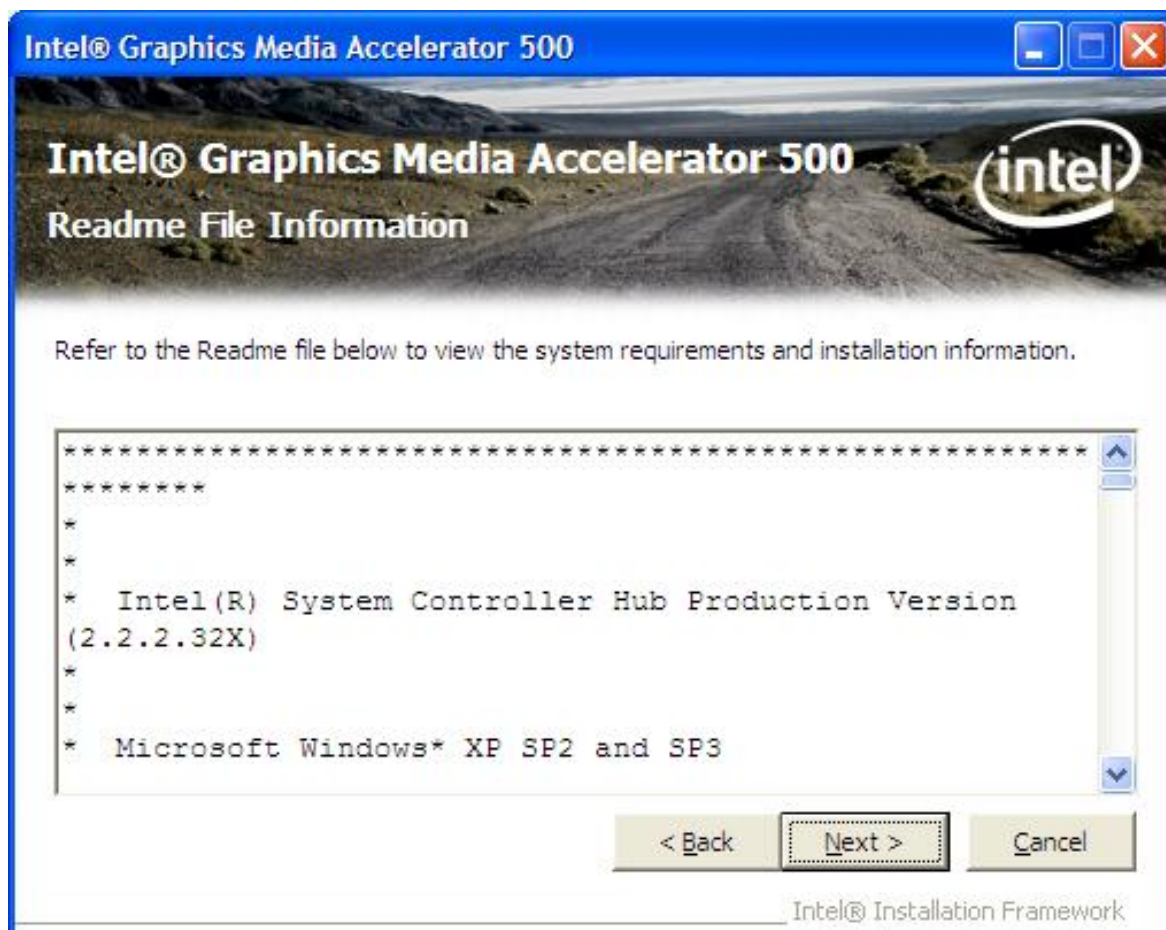




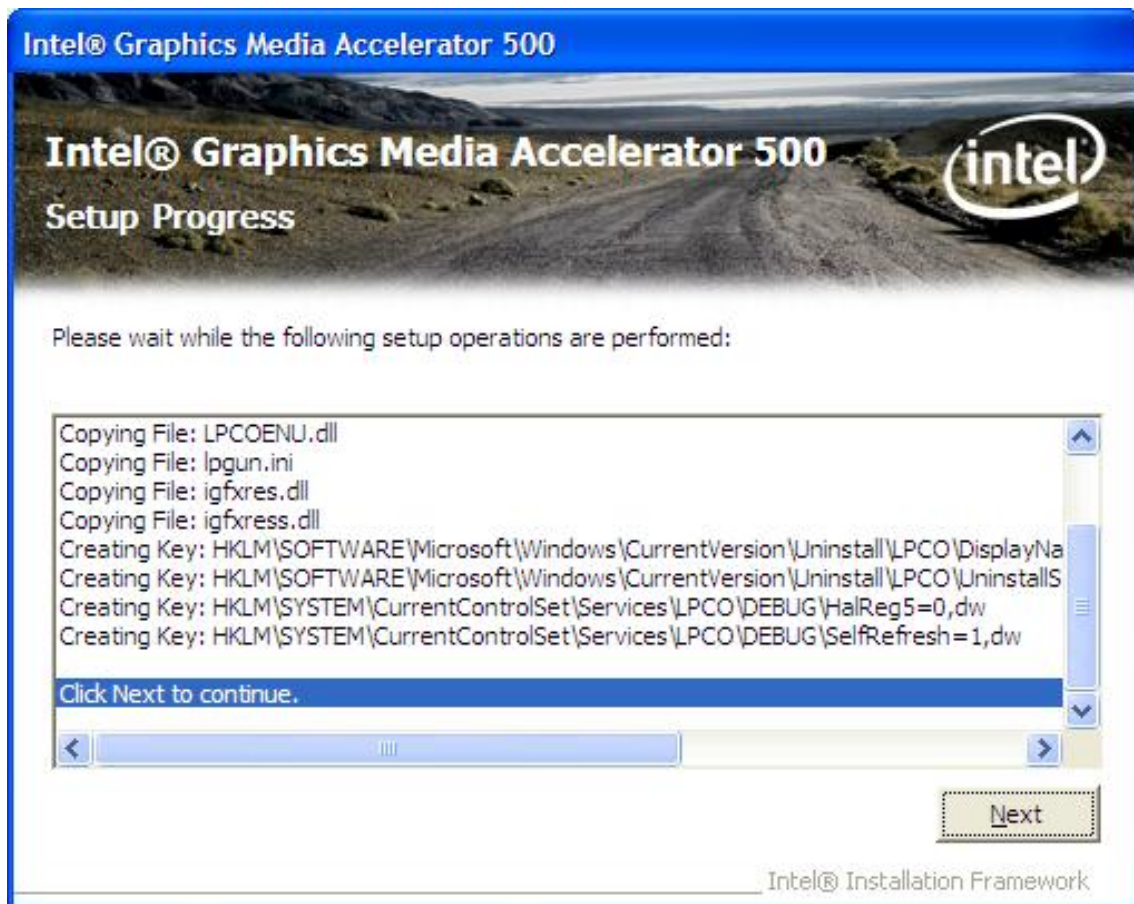
**Step 3.** Read the license agreement. Click **Yes** to accept license agreement.



**Step 4.** Click **Next**.



**Step 5.** Click **Next** to continue.



**Step 6.** Select **Yes, I want to restart this computer now.** Click **Finish** then remove any installation media from the drives.





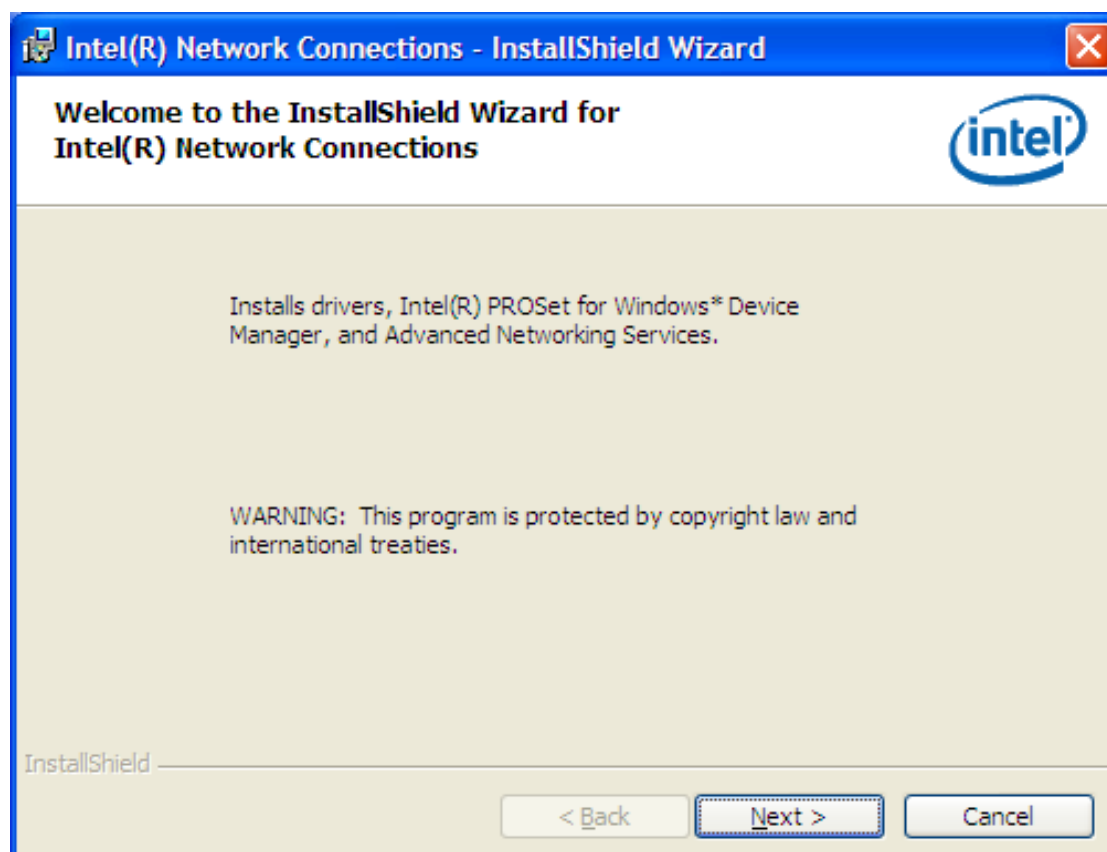
## 4.3 Intel 82574L Gbe LAN Device Driver

To install the Intel (R) 82574L Gbe Gigabit LAN connect device driver, please follow the steps below.

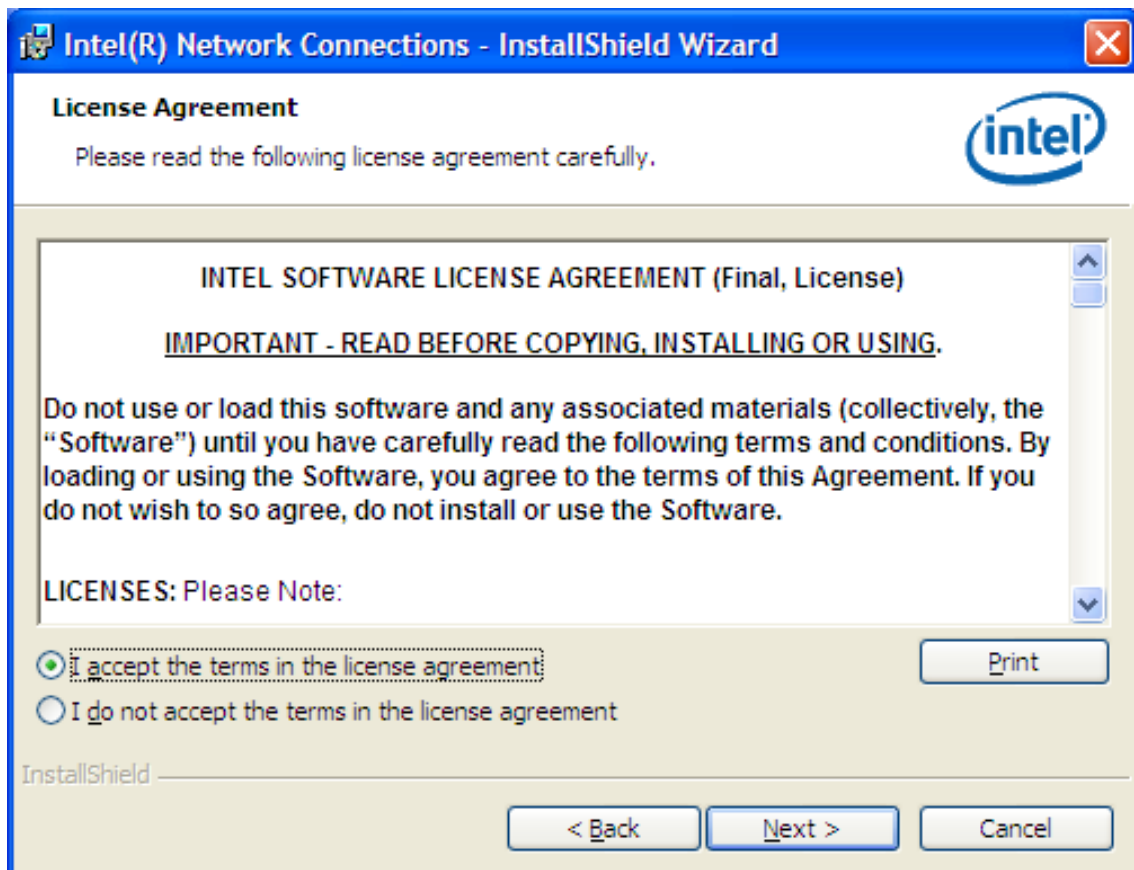
**Step 1.** Select **Intel (R) 82574L Gbe LAN Driver** from the list



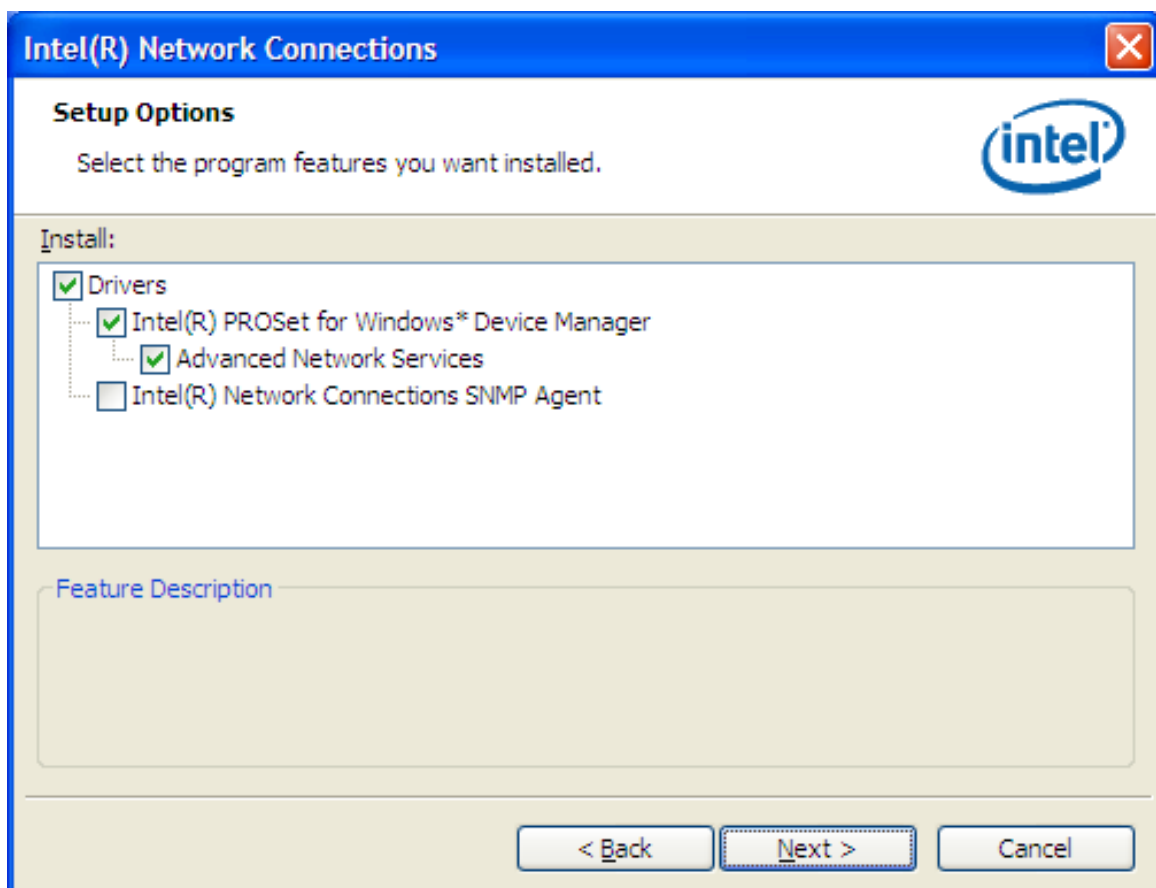
**Step 2.** Click **Next** to continue.



**Step 3.** Read the license agreement. Select **I accept the terms in the license agreement** then click **Next** to continue.

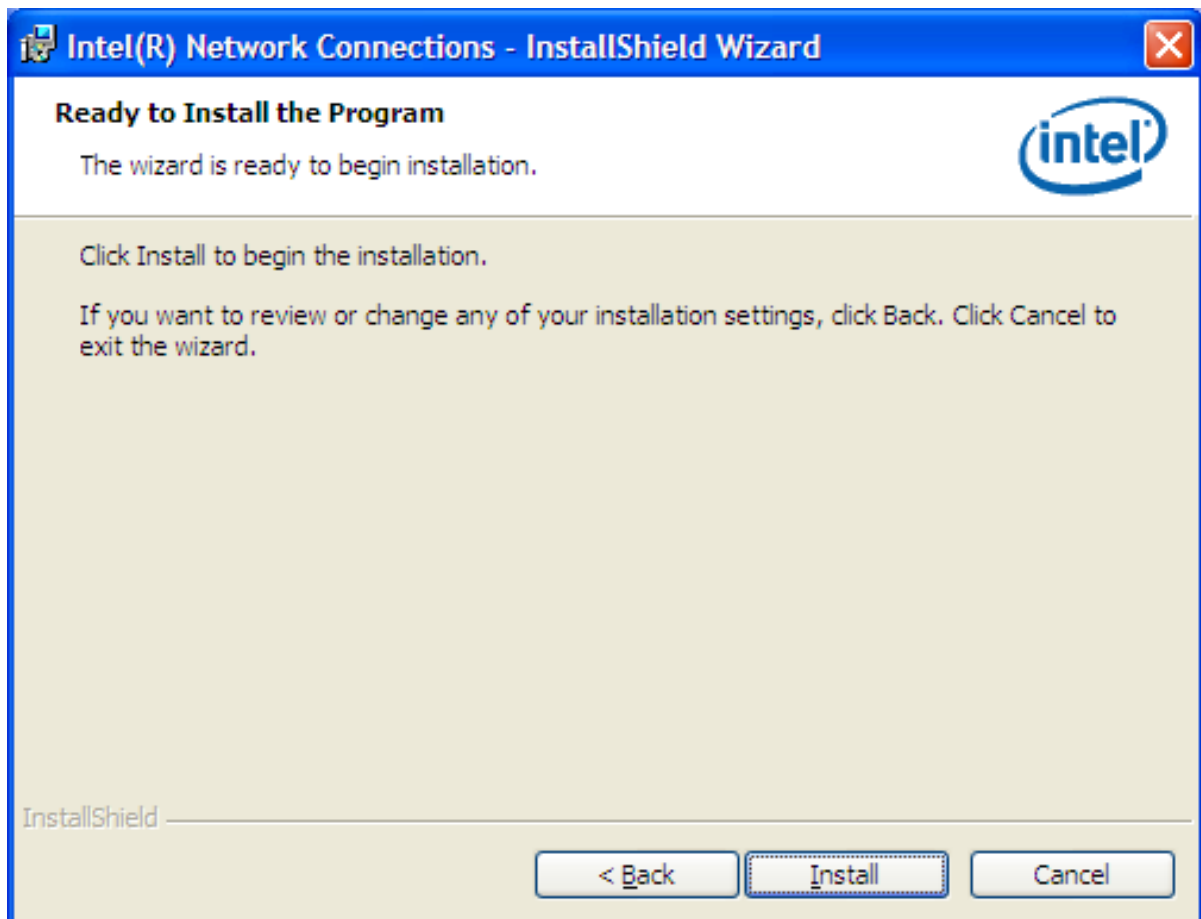


**Step 4.** Select **Drivers, Intel(R) PROSet for Windows\* Device Manager, Advanced Network Services**. Click **Next** to continue.

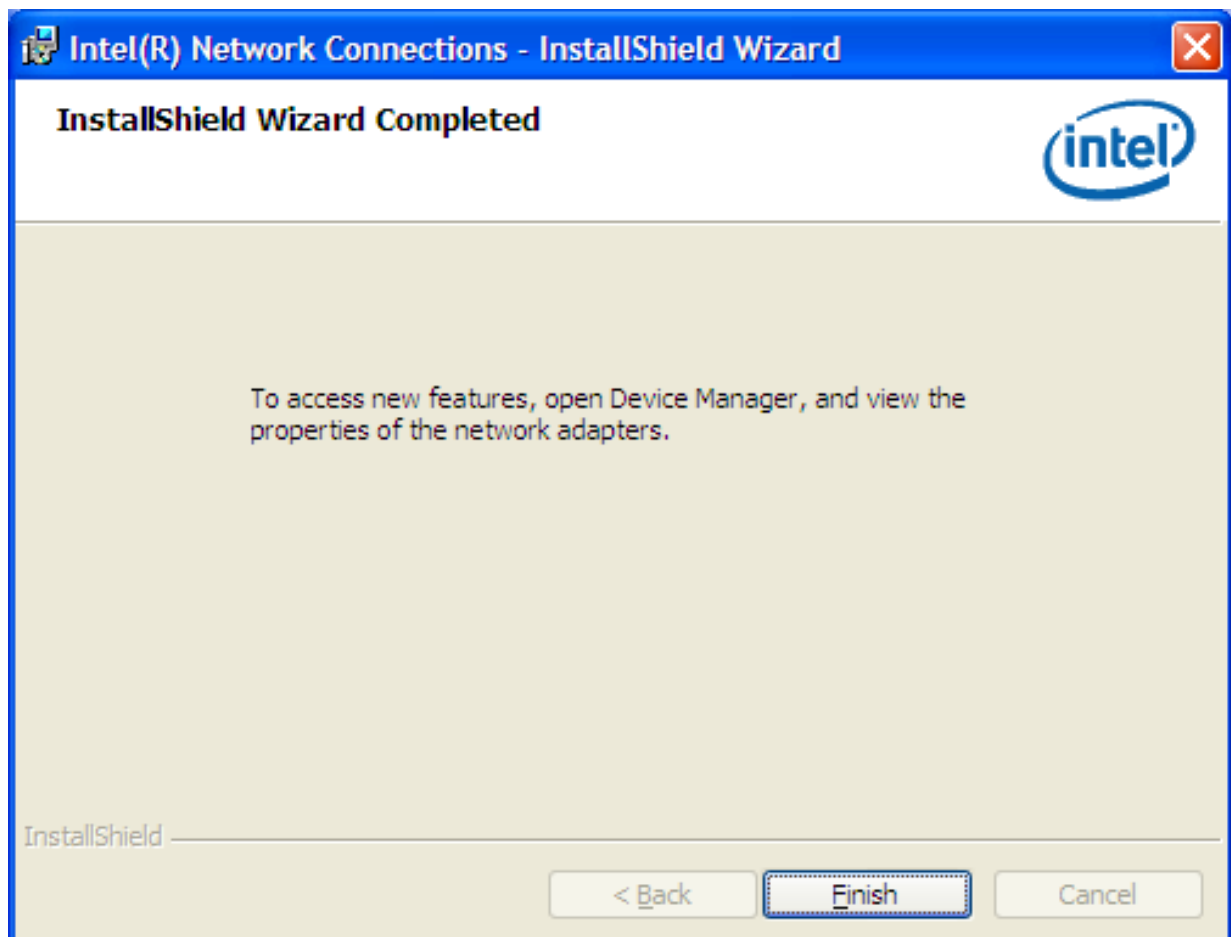




**Step 5.** Click **Install** to begin installation.



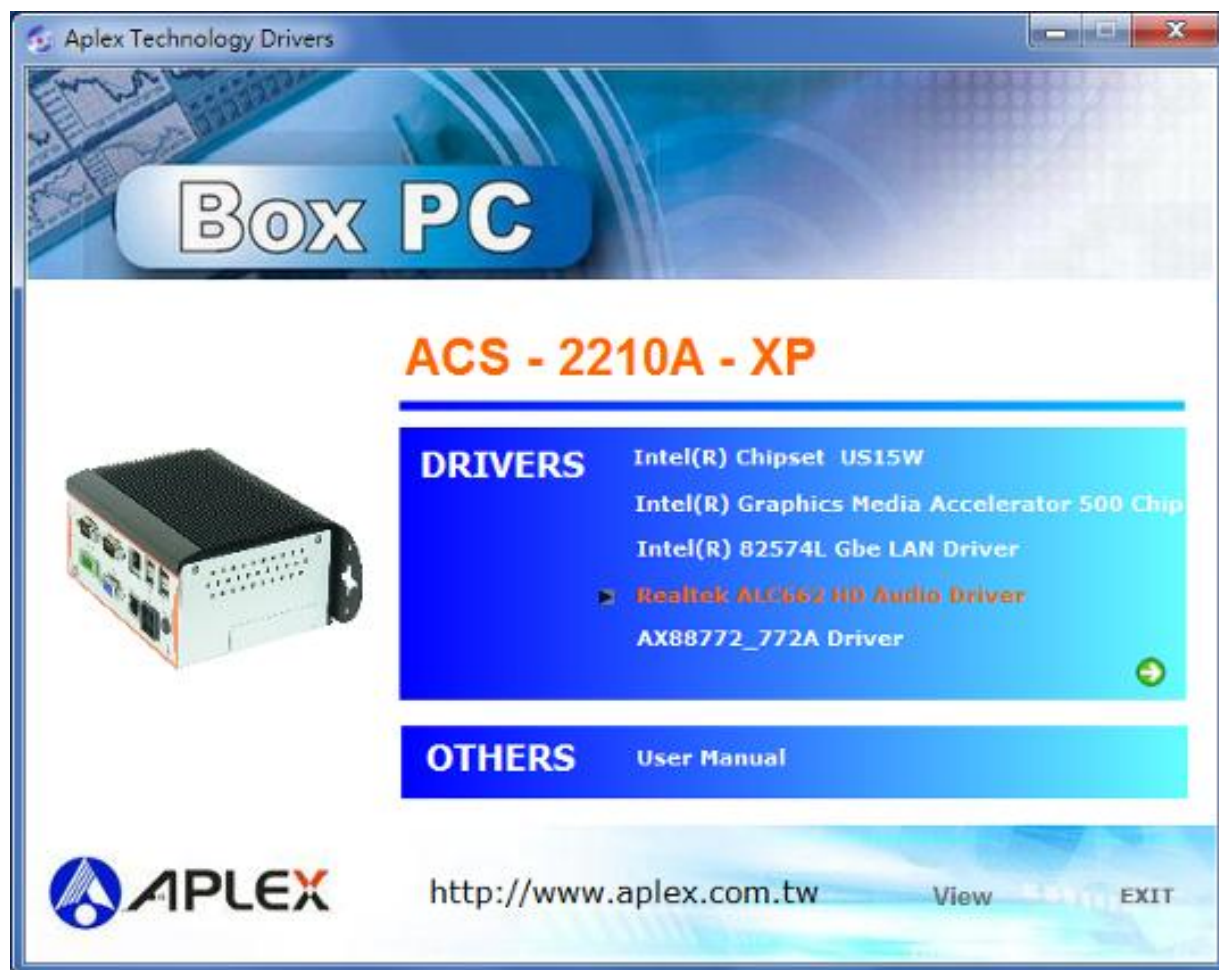
**Step 6.** Click **Finish** to complete the installation.



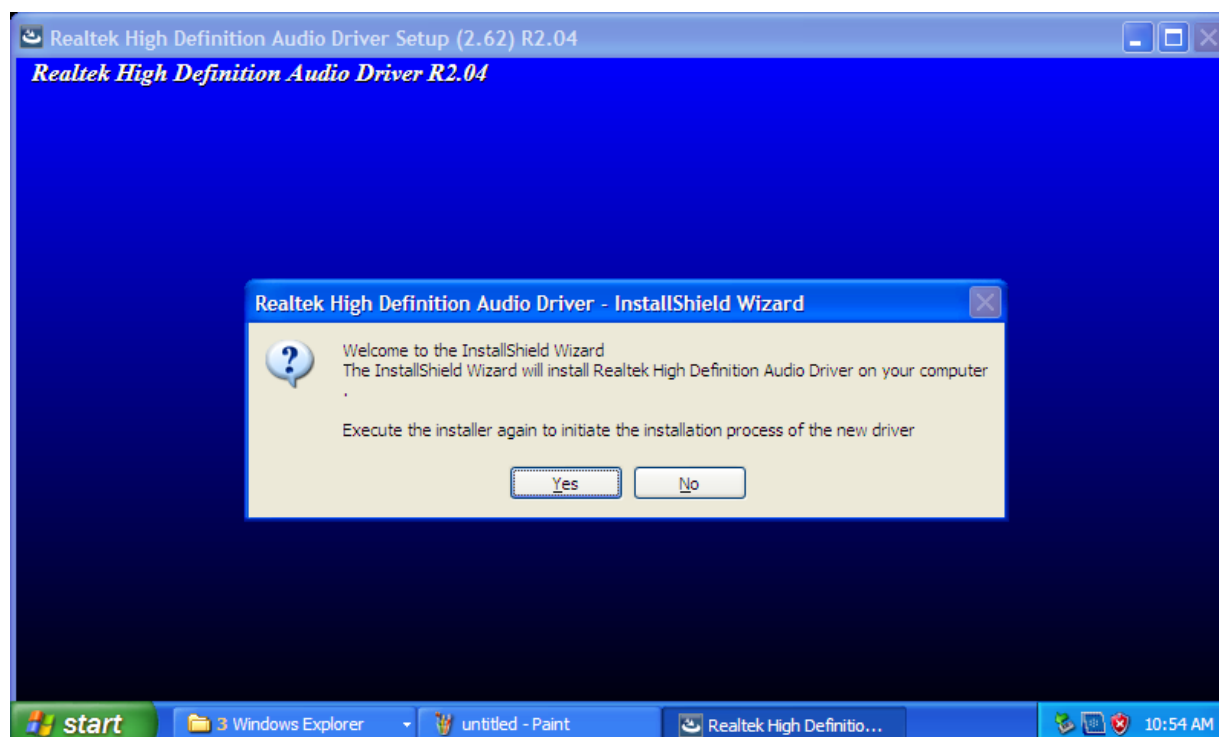
## 4.4 Realtek HD Audio Driver Installation

To install the Realtek High Definition (HD) Audio driver, please follow the steps below.

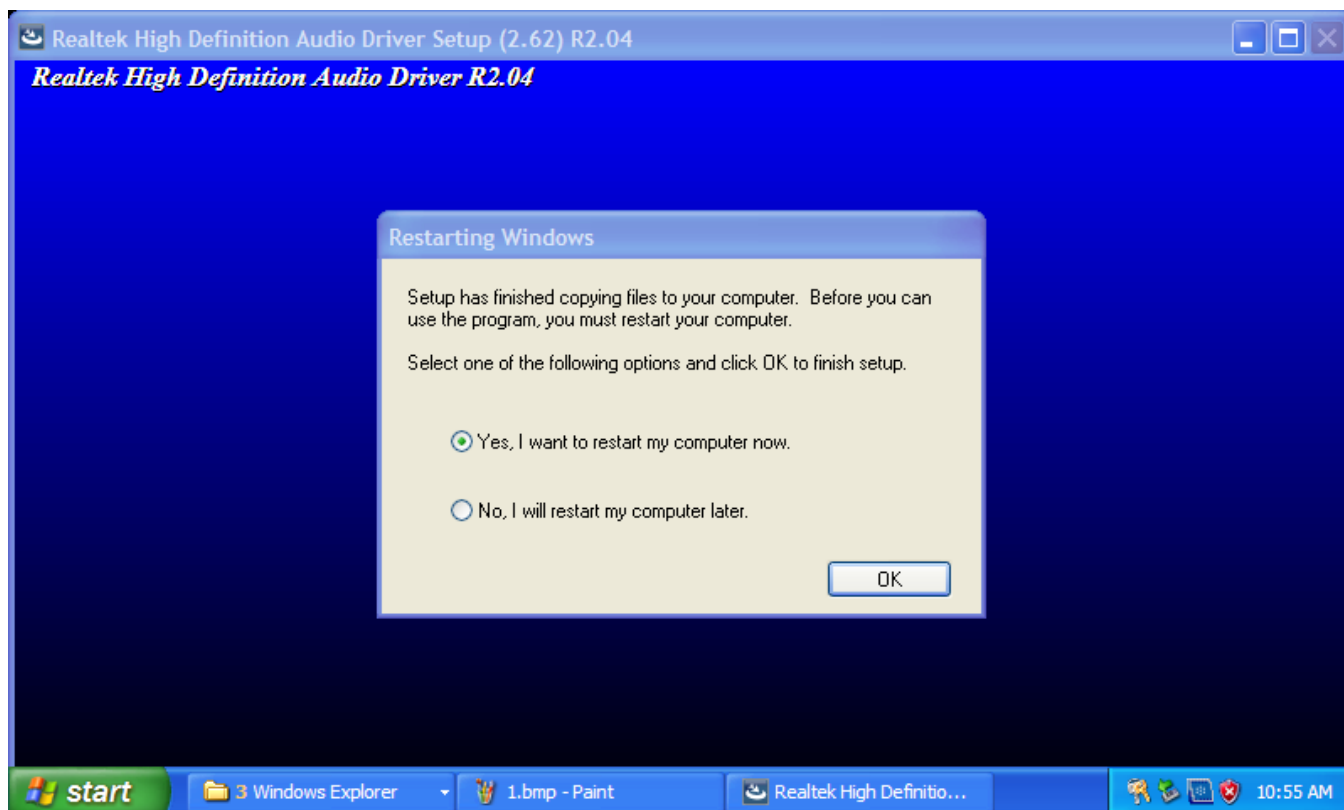
**Step 1.** Select **Realtek ALC662 HD Audio Driver** from the list



**Step 2.** Click **Yes** to continue the installation.



**Step 3.** Select **Yes, I want to restart my computer now.** then click **OK.**



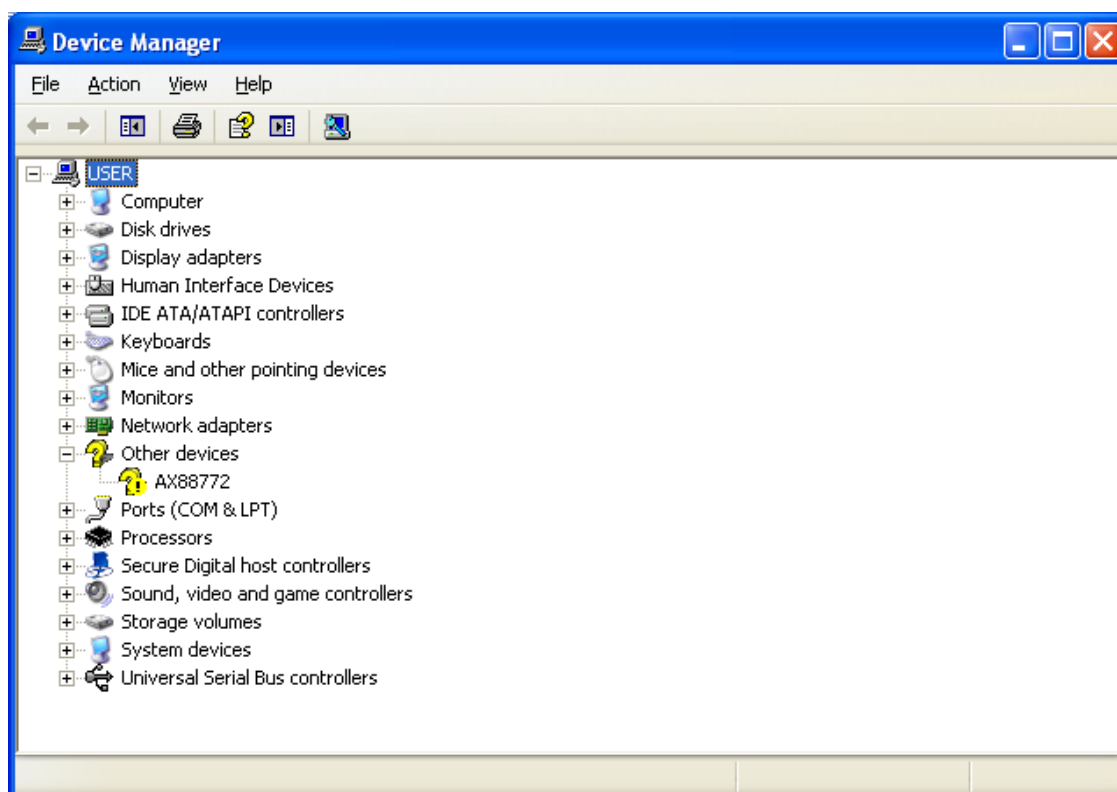
## 4.5 AX88772\_772A Driver Installation

To install the AX88772\_772A driver, please follow the steps below.

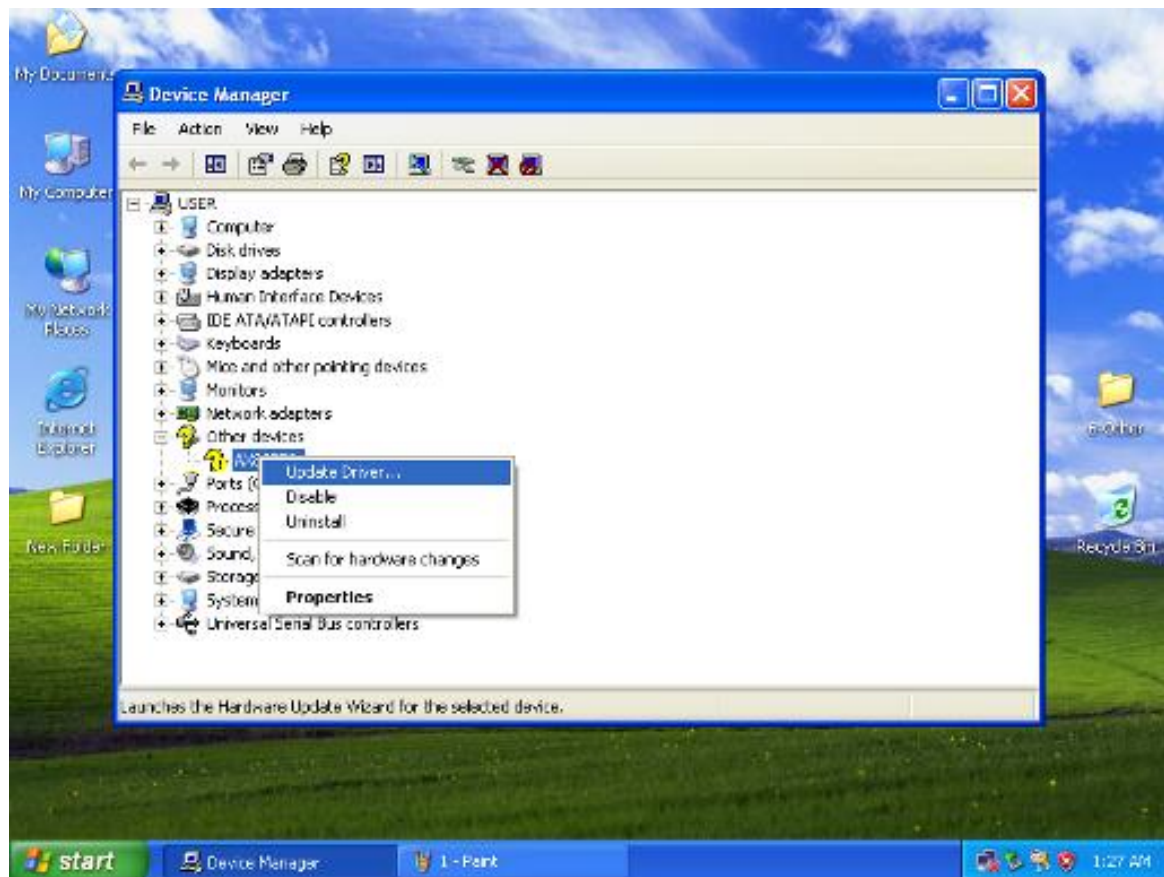
**Step 1.** Select AX88772\_772A Driver.



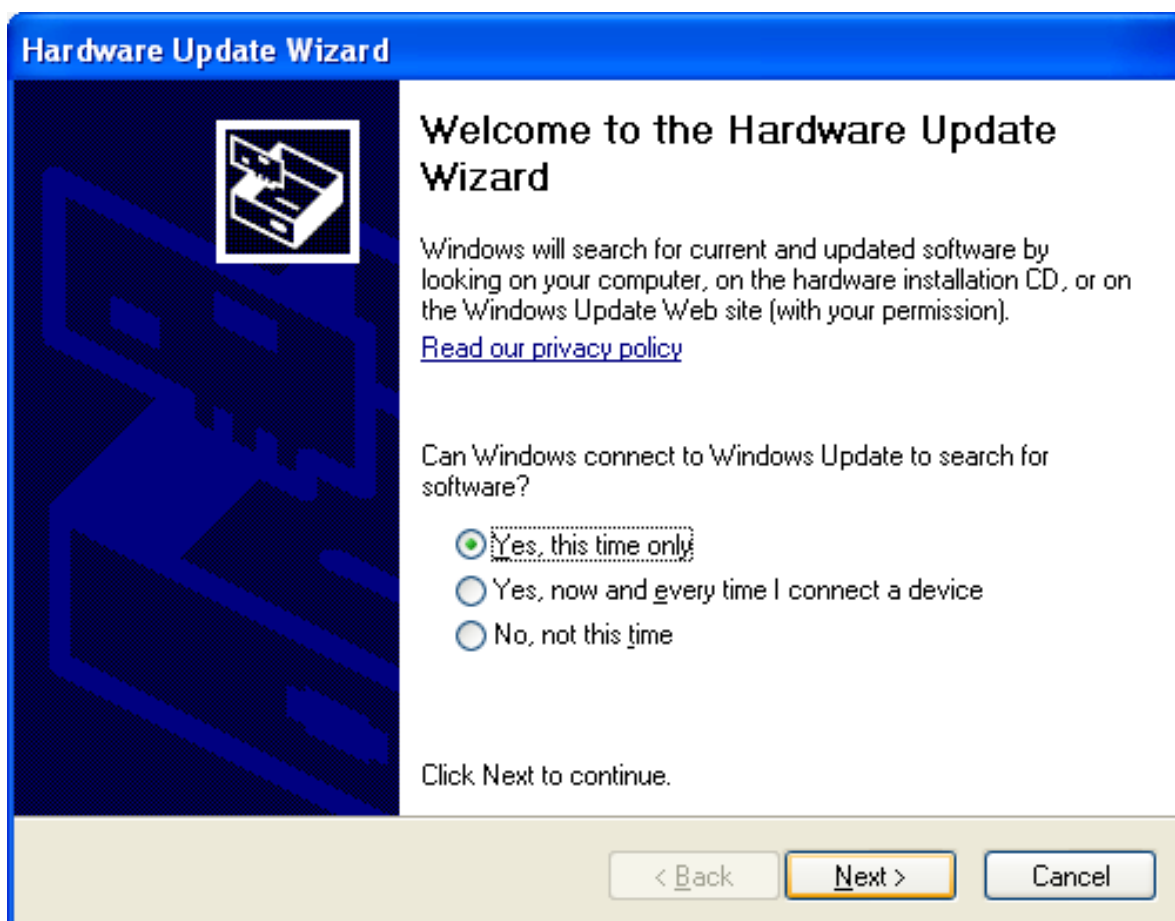
**Step 2.** Select **USER/ Other devices/AX8872**.



**Step 3.** Select update device.

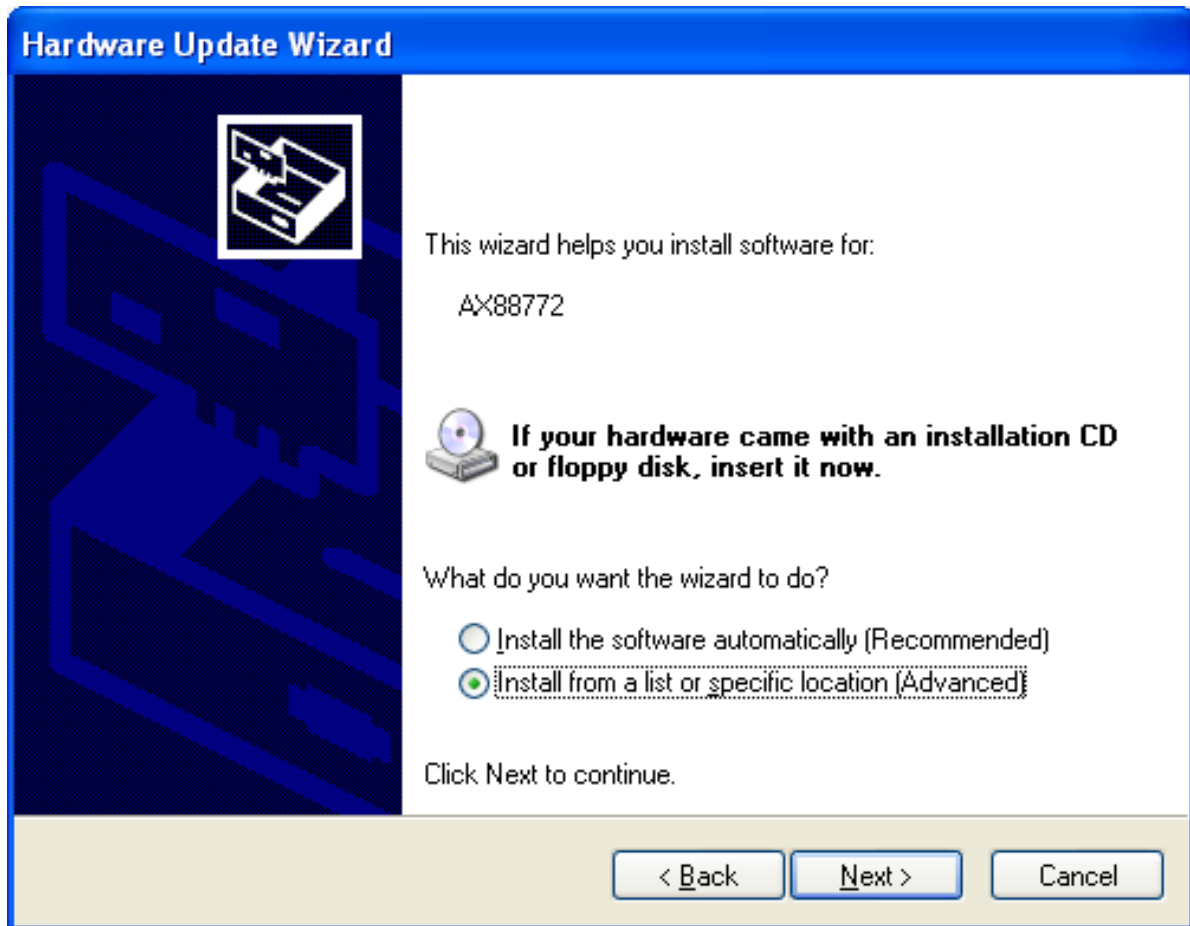


**Step 4.** Select Yes, this time only. Click **Next** to continue.

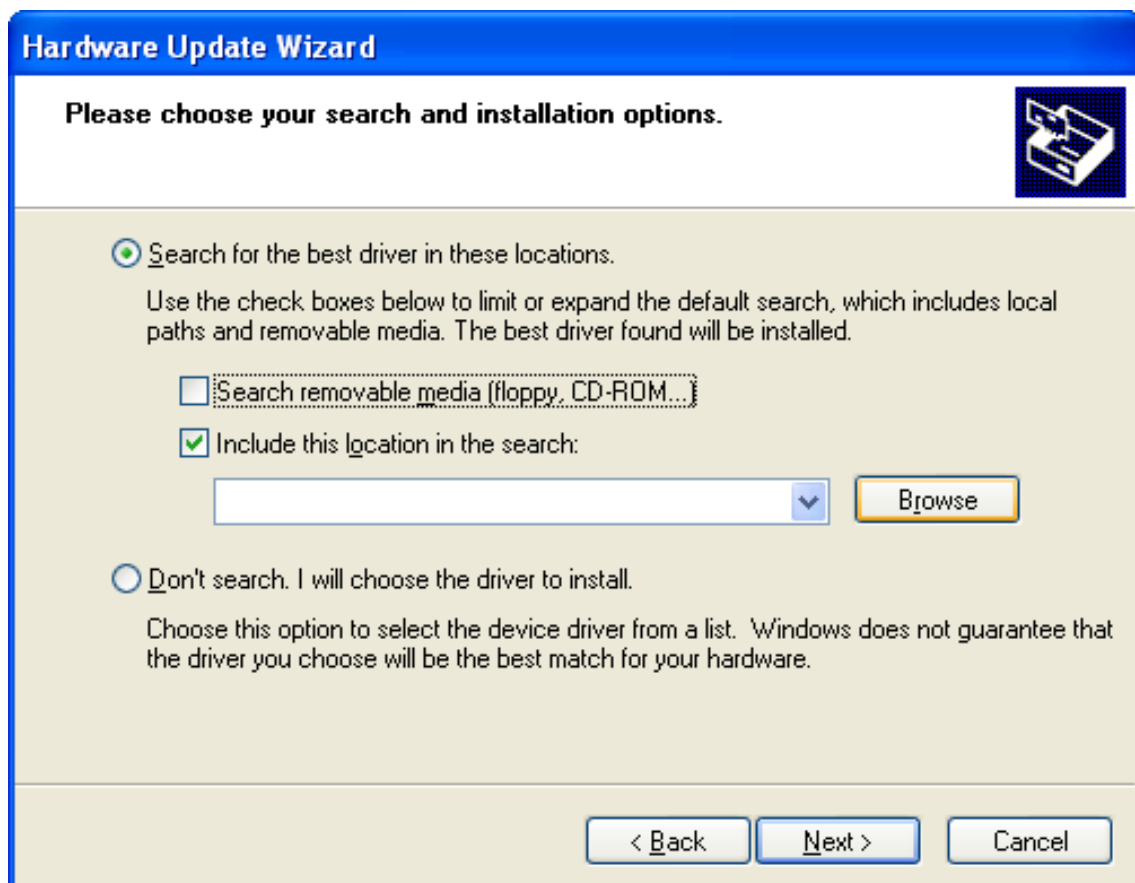




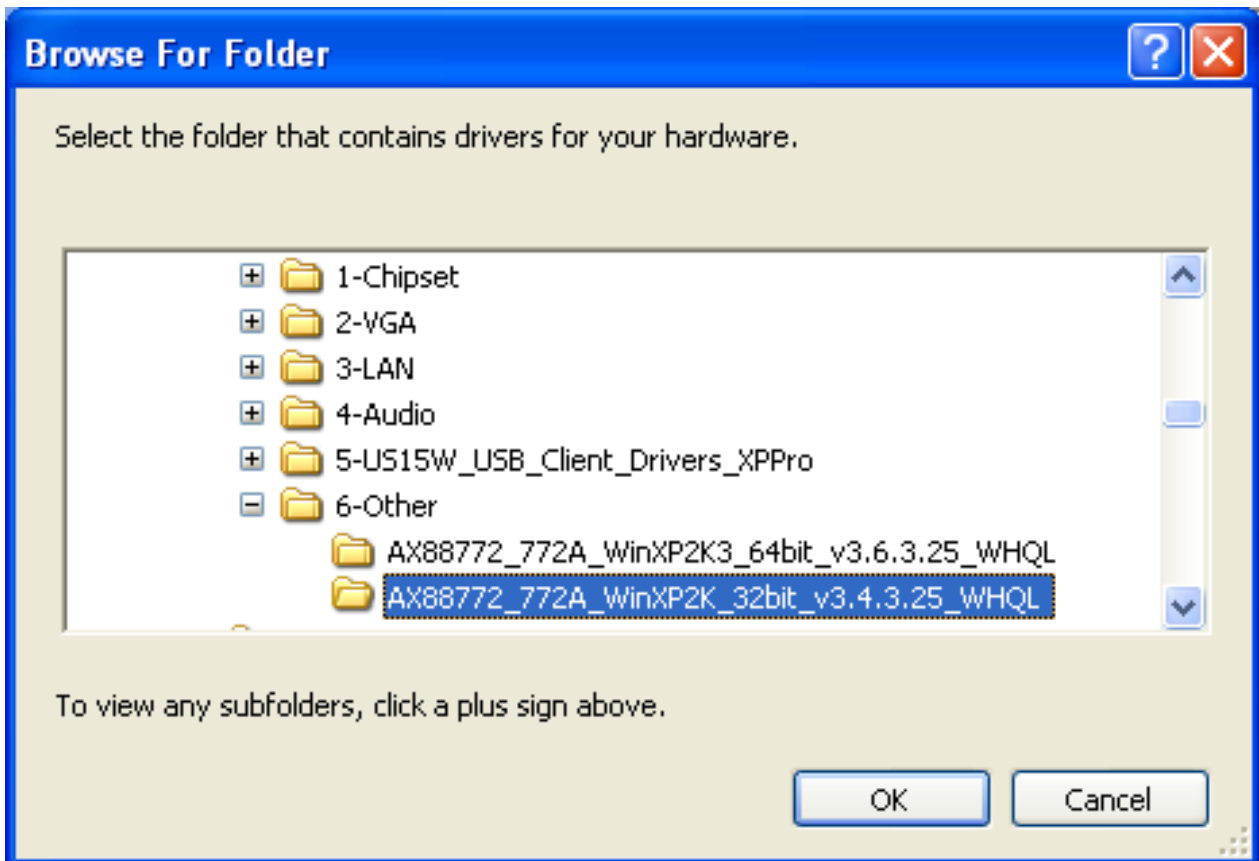
**Step 5.** Select **Install from a list or specific location(Advanced)**. Click **Next**.



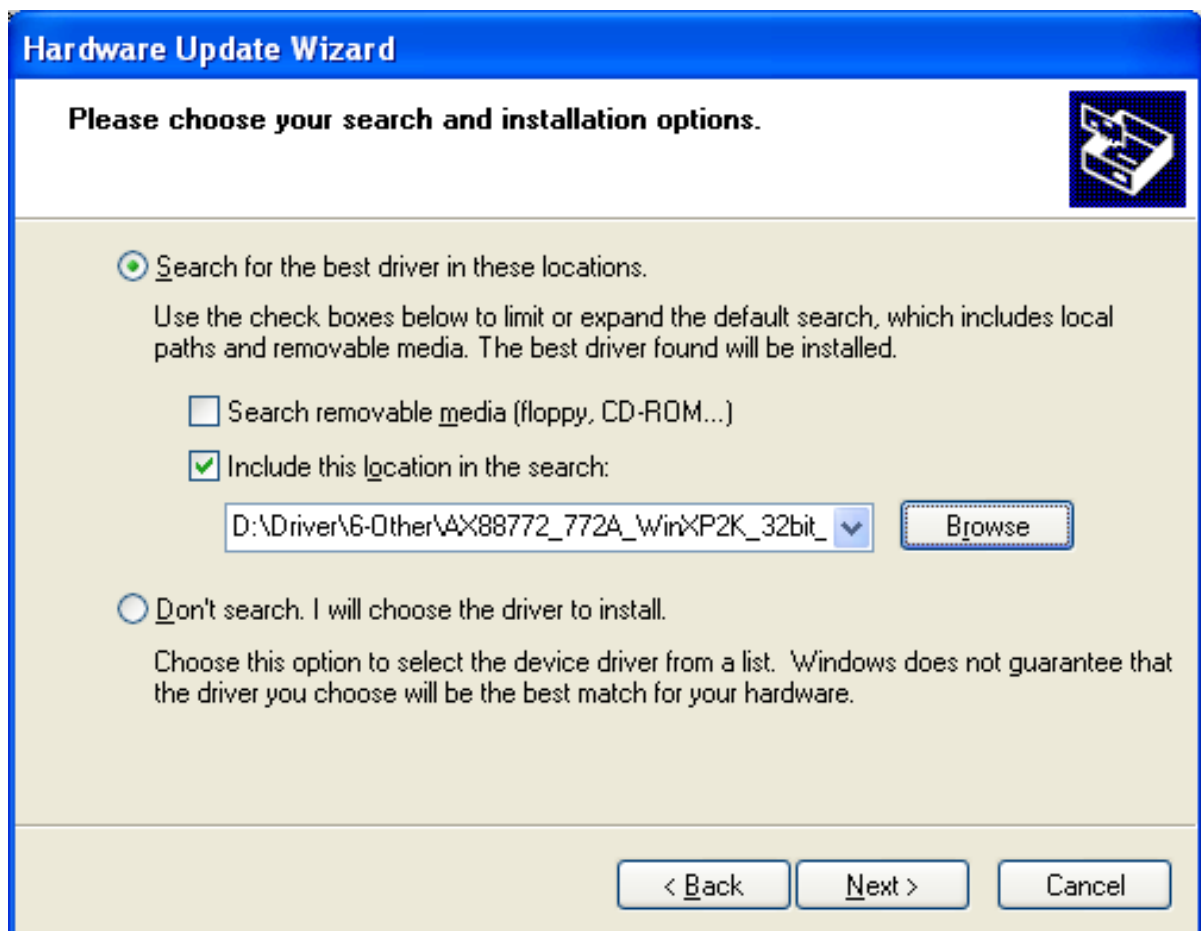
**Step 6.** Select **Search for the best driver in these locations**. Check **Include this location in the search**. Click **Browse**.



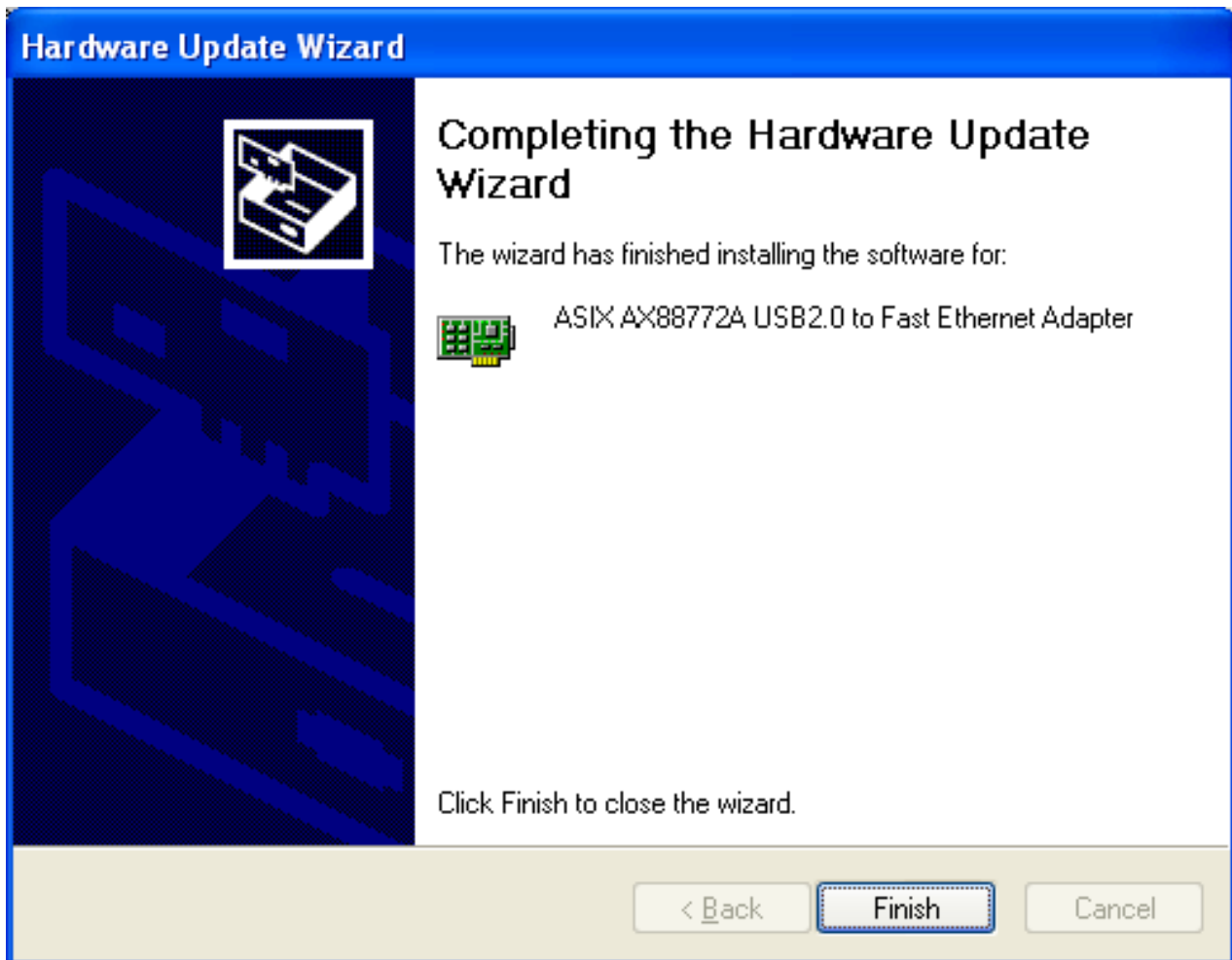
**Step 7.** Browse for folder. Select AX88772\_772A\_WinXP2K\_32bit\_v3.4.3.25\_WHQL. Click **OK**.



**Step 8.** AX88772\_772A\_WinXP2K\_32bit\_v3.4.3.25\_WHQL has been chosen.



**Step 9.** Click **Finish** to complete the installation.



ASIX AX88772A USB2.0 to Fast Ethernet Adapter has been installed.

